Inaugural Address

DELIVERED AT THE

NINTH INTERNATIONAL MEDICAL CONGRESS,

Held at Washington, U.S., in September, 1887,

BY NATHAN SMITH DAVIS, M.D., LL.D.,

PRESIDENT OF THE CONGRESS.

GENTLEMEN,—With a full consciousness of my own deficiencies, and still with a heart overflowing with gratitude, I thank you for the honour you have bestowed in selecting me to preside over the deliberations of this great and learned assembly. It is an honour that I appreciate as second to no other of a temporal nature, because it has been bestowed neither by conquest nor hereditary influence, nor yet by partisan strife, but by the free expression of your own choice.

Addressing myself now more directly to those here assembled, who have left homes and loved ones in other lands and encountered the fatigue and danger of travelling by sea and by land, in the name of the medical profession of this country I welcome you, not only to this beautiful city and the hospitality of its citizens, as has been so admirably done already by the honourable representative of the Government who has just taken his seat, but I cordially welcome you to the open arms and warm hearts of the medical men of this *whole country*, in whose name you were invited here three years since, and whose representatives are now here side by side with you, gathered from the east, the west, the north, the south, as well as from the rugged mountains and fertile valleys of the centre, to make good the promise implied by that invitation. If they do not cause you to feel at home and happy, not only in the social circles and halls devoted to the advancement of science, literature, and art in this city of our nation's pride, but wherever you may choose to roam, from the rocky coast of New England on the Atlantic to the Golden Gate of the Pacific, it will be from no want of earnest disposition to do so.

And now, I not only thus welcome you from other lands, but I take great pleasure in greeting you one and all as leading representatives of a profession whose paramount object is the lessening of human suffering, by preventing, alleviating, or curing diseases wherever found, and in whatever class or grade of the human family. Nay, more, with profound reverence I greet you as a noble brotherhood, who, in the practical pursuit of that one grand object, recognise no distinction of country, race, or creed, but bind up the wounds and assuage the pains of the rich and poor, ruler and ruled, Christian and pagan, friend and foe alike. Not that every medical man does not love and defend his own country and fireside with as fervid a patriotism as the members of any other class of men. But as disease and pain are limited to no class or country, so is the application of his beneficent art limited only by the number of those suffering within his reach. With a common object so beneficent in its nature, and opportunities for its practical pursuit so universal, it is but natural that you should be found searching for the most effectual means for the accomplishment of the one object of lessening human suffering in every field of nature and in every department of human knowledge.

The living human body—the chief object of your solicitude—not only combines in itself the greatest number of elementary substances and the most numerous organs and varied functions, so attuned to harmonious action as to illustrate the operation of every law of physics, every known force in nature, and every step in the development of living matter from the simple aggregation of protoplasm constituting the germinal cell to the full-grown man, but it is placed in appreciable and important relations with the material objects and immaterial forces existing in the world in which he lives. Hence a complete study of the living man, in health and disease, involves a thorough study, not only of his structure and functions, but more or less of every element and force entering into the earth, the air, and the water with which he stands in constant relation.

The medical science of to-day, therefore, embraces not only a knowledge of the living man, but also of such facts, principles, and materials gathered from every other department of human knowledge as may increase your resources for preventing or alleviating his suffering and of prolonging his life. The time has been when medical studies embraced little else than the fanciful theories and arbitrary dogmas of a few leading minds, each of which became for the time the founder of a sect or so-called school of medicine, with his disciples more or less numerous. But with the development of general and analytical chemistry, of the several departments of natural science, of a more practical knowledge of physics, and the adoption of inductive processes of reasoning, the age of theoretical dogmas and of medical sects blindly following some more plausible leader passed away, leaving but an infinitesimal shadow yet visible on the medical horizon. So true is this, that in casting our mental vision to-day over the broad domain of medicine, we see its votaries engaged, some searching for new facts and new materials; some studying new applications and better uses of facts and materials already known; some of them are in the dead-house, with scalpel and microscope, not only studying the position and relations of every part from the obvious bones and muscles to the smallest leucocyte in health, but also every deviation caused by morbid action or disease. Some are searching the fields, the forests, the earth and the air, both for more knowledge concerning the causes of disease and for additional remedial agents; some are in laboratories, with crucible, test-glass, and microscope, analysing every morbid product and every remedial agent, separating the active principles from the crude materials and demonstrating their action on living animals; while far the greater number are at the bedside of the sick and wounded applying the knowledge gained by all other workers to the relief of human suffering. A more active, earnest, ceaseless, and beneficent field of labour is not open to your vision in any other direction or occupied by any other profession or class of men. And thus has the science of medicine become a vast aggregation of observed facts, many of them so related to each other as to permit practical deductions of permanent value, while many others remain isolated through incompleteness of investigations, and therefore liable to prompt, hasty, or even erroneous conclusions. Indeed, the most effective and embarrassing feature in the science and art of medicine at this time is the rapid accumulation of facts furnished by the vast number of individual workers, each pushing investigations in some special direction without concert with his fellows, and without any adequate conception of the coincident lines of observation necessary to enable him to see the true bearing of the facts he evolves. Hence he is constantly mistaking mere coincidences for the relation of cause and effect, and the pages of our medical literature are being filled with hastily formed conclusions and rules of practice from inadequate data. This results, in part at least, from the extent and variety of the fields of inquiry and the complexity of the problems presented for solution. For nowhere else within the realms of human thought does the mind encounter problems requiring for their correct solution the consideration of a greater number of data than in the study of etiology and pathology. To determine the appreciable conditions of the earth, air, and water of any country before, during, and after the invasion of an epidemic disease long enough to include several consecutive visits of the same, is not possible for a single individual, nor for any number of observers acting separately or without concert. Yet just this complete knowledge is necessary to enable us to separate the conditions that are merely coincident or accidental from those that are such constant accompaniments of the disease as to prove a necessary relation between them. And it is only by such persistent, coincident, systematic observations of many individuals, each having a definite part, and the results carefully compared analytically and synthetically at proper intervals, that the real conditions and laws controlling the prevalence and severity of epidemics and endemics can be clearly demonstrated. It is not enough to discover the primary infection, or the *contagium vivum*, whether it be the bacillus of cholera, yellow fever, or tuberculosis, for abundant experience has shown that not one of these will extend its ravages in any community or country unless it finds there is a soil or pabulum congenial for its support and propagation.

It is on the development and diffusion of knowledge concerning the local conditions necessary for receiving and propagating the specific infections of disease that nearly all the important sanitary measures of modern times have been based. And it is on a further development of knowledge in the same direction, gained by more systematic, continuous, and coincident investigation, that we shall most successfully protect our race from the pestilences that have hitherto "walked in darkness and wasted at noonday." It was the extensive and ever-extending field of medical science, the complexity of the problems pressing for solution, and still more the individual responsibility of applying the resources at command to the direct treatment of disease, that early disposed medical men to seek each other's counsel, to form groups or clubs for comparison of views and mutual improvement. The manifest advantages of these soon prompted more extended social gatherings, until at the present time a large proportion of the more active members of the profession in every civilised country are participating in municipal, district, national, and international medical organisations. The aggregate benefit derived from all this active intercourse is beyond easy expression in words. In the more frequent and familiar comparison of cases and views on all professional subjects in the local societies, closer habits of observation and a wider range of thought are induced, while narrow prejudices and bigotry give place to generous rivalry and personal friendships. In the larger gatherings, the formal preparation of papers and reports on a great variety of subjects impels their authors to a wider range of study and greater mental discipline, while the collision with other minds in discussion brings all aspects of the subject to view, enlarging the scope of mental vision, starting new trains of thought, and begetting a broader and stronger mental grasp with purer and nobler aims in life.

I think I am justified in saying that no other one influence operative in human society during the present century has done as much to develop and diffuse medical knowledge, to stimulate its practical and successful application, both in sanitary measures for preventing disease and in the direct alleviation of suffering at the bedside, and in unifying and ennobling the profession itself, as has been accomplished by the aggregate medical society organisations of the world. Yet their capacity for conferring other and perhaps still greater benefits, under proper management, will have become manifest in the near future. And that I may accomplish the chief object of this address, I must ask your indulgence while I indicate some of the more important additional benefits in advancing medical science and saving human life through the instrumentality of our medical society organisations, and the methods by which they may be accomplished.

Every experienced and intelligent practitioner of the healing art is familiar with the fact that all acute general diseases are influenced in their prevalence and severity by seasons of the year, topographical and other conditions of the earth, meteorological conditions of the atmosphere, and the social condition and habits of the people themselves. The most familiar endemics vary annually in the same localities, while the great epidemics that have for ages broken over the comparatively limited boundaries of their habitats only at intervals of years, and extended their ravages from country to country, and receded again to the source from which they apparently originated, differ widely in the different periods of their prevalence. But in studying the essential causes of any one of these general diseases and the laws and conditions under which such causes operate, he soon finds certain factors, essential for the solution of his problems, wanting. For instance, if he wishes to identify the date of the first attack of epidemic cholera in a given locality, and the character of bowel affections immediately preceding, the ordinary statistics of mortality will give him only the date of death, which may have been from one to seven days later, or it may have been preceded by one or more cases that recovered. If he is anxious to determine the reason why the disease, on entering one community, develops with such rapidity that in a few days its victims are found in every grade of the population and in almost every street, while in another it develops slowly, adhering persistently to particular classes or localities, he may find in the ordinary meteorological records the thermometric, barometric, and hygrometric conditions of the atmosphere, with the direction and the velocity of the winds, but he finds nothing regarding those important though variable elements known as ozone and hydrogen peroxide, active oxidisers; or those nitrogenous products called free and albuminoid ammonia. Neither do the sanitary records give the desired information concerning the composition and impregnations of the soil, or of the organic and inorganic emanations that may arise therefrom. An adequate knowledge of these absent factors relating to the condition of the earth, air, and water over districts large enough to embrace localities subject to invasions of the epidemics and others known to be exempt, through a sufficient length of time to cover several periods of prevalence and periods of absence alike, is essential for enabling us to comprehend the causes that make one district amenable to the prevalence of a disease and another not, as well as the marked differences in the severity and mode of progress of the same disease at different periods in the same localities and same classes of the people. The same additional knowledge would also furnish the basis for further sanitary measures of the greatest practical value. And yet it must be obvious that the co-operation of numbers of medical men directly engaged in the field of general practice, with others possessed of more practical facilities for chemical and microscopical research, is necessary for successfully prosecuting such coincident and continuous investigations as would be likely to secure the desired results. Only well-trained general practitioners in every locality chosen for observation could observe and record the date of the initial symptoms of acute general diseases coming under their notice, and at stated intervals collate and report them to a central committee. The daily observations concerning the presence and relative proportion of active oxidisers and of nitrogenous organic elements in the atmosphere and the water would require the selection of one or two experts in chemical and microscopical research for each locality, all making their observations coincidently in time and by uniform methods. There are included in the organised medical associations of each country the men and materials necessary for prosecuting every well-defined line of inquiry; and these associations, by their stated meetings and their facilities for intercommunication and concert of action, present the entire machinery needed, and are only waiting for well-planned and systematic use.

The tendency to make the permanent medical organisations available for prosecuting work in the directions I have indicated has already been manifested to a limited extent, as may be seen in the formation of the Collective Investigation Committee of the British Medical Association and of the International Collective Investigation Committee, organised during the sitting of the Eighth International Congress at Copenhagen. An earlier movement more fully of the character I have been endeavouring to explain was made by the American Medical Association in 1875,[1] when a standing committee was appointed to establish in a sufficient number of localities regular coincident daily observations and records concerning all appreciable meteorological conditions, including organic and inorganic elements found in the atmosphere, and the date of beginning of acute general diseases, and report the results at each annual meeting of the Association. The committee made reports embodying facts of interest and permanent value in 1877,[2] in 1879,[3] in 1881,[4] in 1882,[5] and in 1883.[6] The latter report contains, among other items, a complete tabulated statement of the free and albuminoid ammonia in the atmosphere for every day in the year ending Aug. 31st, 1883, as determined for the committee by Professor J. H. Long in connexion with the laboratory of the Chicago Medical College. The committee is still prosecuting its work with material in hand for a still more important report at an early day. The greatest difficulty encountered has been to enlist a sufficient number of active practitioners in each locality, who faithfully record the desired clinical facts and report the results to the committee. But this and all other obstacles can be overcome by persevering and well-directed work.

I trust no apology is needed for having embraced this occasion to attract your attention to the very important question how to make all our medical associations more useful in promoting the science of medicine by more complete methods of investigation, especially in directions where the coincident action of several persons in different places is essential for success. I fully appreciate the

[1] Trans. of the American Medical Association, vol. xxvi., p. 125.
[2] Ibid., vol. xxviii., p. 153.
[3] Ibid., vol. xxx., pp. 38–147.
[4] Ibid., vol. xxxii., p. 481.
[5] Ibid., vol xxxiii., p. 43.
[6] Journal of American Medical Association, vol. ii., pp. 85 and 182.

great benefit resulting from the simple mingling of large numbers of medical men in social contact, where each is made to hear constantly, whether on the street, in the hotel, or the assembly room, new suggestions, new modes of expression, and to observe the physical and mental effects of the various habits and customs of the different peoples, until each one leaves the general gathering with largely increased mental activity and resources, as was so happily expressed by Sir James Paget in his address to the Congress of 1881 in London. And I appreciate in a still higher degree the benefits derived from the preparation and reading of papers by individuals, and the discussion of important questions, in all our assemblies. But, for reasons I have already briefly stated, I hope to see added in every permanent general medical society two standing committees: one, to whom should be referred for critical examination every communication claiming to embody a new discovery in either the science or art of medicine; and the other should be charged with the work of devising such lines of investigation for developing additional knowledge as require the co-operation of different individuals, and perhaps societies, and of superintending their efficient execution until crowned with success. If 10 or 20 per cent. of the money paid for initiation and membership dues by the members of each society were appropriated and judiciously expended in the prosecution of such systematic and continuous investigations from year to year, it would accomplish more in advancing medical science directly, and indirectly in benefiting the human race, than ten times that amount would accomplish if expended in any other direction. For it must be remembered that when money is expended for material objects, even for food, clothing, or medicine, such materials feed, clothe, or relieve but one set of needy individuals and are themselves consumed; but the expenditure of money and time in such a way as to develop a new fact capable of practical application either in preventing, alleviating, or curing disease—that fact does not, like the food or medicine, perish with the using, but it becomes literally imperishable. Neither are its benefits limited to one set of individuals, but it is transmitted with the speed of the lightning over the land and under the sea to every civilised people; and whatever benefits it is capable of conferring are as capable of being applied to a million as to one, and of being repeated with increasing efficiency from generation to generation.

It has been tersely and correctly stated that associated action constitutes the characteristic and predominating power of the age in which we live. It is by associated action that education in its broadest sense, religion, and civilisation have been more rapidly diffused among the masses of mankind during the present century than during any other period of the world's history. It is by the association of capital, wielded by the associated intellects of the nineteenth century, that highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant nations have become neighbours, and the inhabitants hold daily converse with each other from opposite sides of the globe. Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes. I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men in rendering available these grand material achievements of the age for cultivating fraternal relations, developing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration.

This is the ninth grand International Congress in regular series within little more than two decades, and let us hope that all its work will not only be done in harmony and good order, but with such results as will add much to the aggregate of human happiness through all the coming generations. Without trespassing further on your patience, I must ask your forbearance with my own imperfect qualifications, and your generous assistance in the discharge of the responsible duties you have devolved upon me.

Clinical Lectures
ON
DISEASES OF THE EYE.

Delivered at the Nottingham and Midland Eye Infirmary.

BY C. BELL TAYLOR, M.D., F.R.C.S.,
HONORARY SURGEON TO THE INFIRMARY.

LECTURE VI.
GLAUCOMA.

GENTLEMEN,—When Mr. Mayhew, the late eminent veterinary surgeon, described rabies in the dog, he used to say: "The eyes, which glow like living coals in the early stages of the malady, become *bottle green*, and in many cases slough and fall from the sockets ere death closes the scene." Now I need not tell you that *glaucos* is Greek for green, and it is precisely this bottle-green reflex which you notice in the pupillary area of the patient you have just seen which is the origin of the term "glaucoma"—the subject of this evening's lecture. I know you will say: "If that is so, it is strange that this remarkable symptom should be conspicuously absent in so many of the cases which come under treatment at this institution." Well, it does seem strange; but the fact is, that the term as at present understood bears little relation to its original etymology, but is used indiscriminately to cover the whole series of morbid changes which are the result of increased intraocular tension or fulness of the globe. What is the cause of increased intraocular tension? Well, if you mean the primary cause—the *causa causans*,—all I can do in the way of response is to call your attention to certain facts which may assist you in forming an opinion. A lady addicted to play, but a bad loser, was one evening most unfortunate at cards. Under the influence of the chagrin so occasioned, she developed glaucoma and lost the sight of the right eye. Warned by this terrible mishap, she abandoned her favourite pastime for a year and a half, when, being tempted, she again ventured, was again unfortunate, and lost the sight of the remaining eye. (Fischer.) A distinguished engineer, during the siege of Paris, ascended in a balloon to make observations, was caught in a contrary current, driven within the enemy's lines, and taken prisoner. That same night he was attacked with glaucoma in both eyes. (Wecker.) A nurse, worn out with watching at the bedside of a dying patient, fell asleep and was suddenly roused by a loud crash. The sash cord had broken. Glaucoma came on within an hour in the right eye, and the left was speedily affected in the same way. (Lawson.) I could multiply such recitals from many similar cases occurring in my own practice, but here is evidence enough to show that misery and misfortune, anxiety and worry, stand in the relation of predisposing cause and effect to glaucoma, and that nervous shocks will precipitate an attack. Some pathologists affirm that the eye is affected through the medium of the fifth and ciliary nerves, others that the sympathetic is principally involved. However that may be, it is certain that the proximate or immediate cause of a rise in tension is one or other of two conditions—either secretion is in excess, or the normal outflow is impeded. The vitreous and aqueous chambers of the eyeball are, as you know, respectively permeated and filled with a watery fluid; if the former is removed, suspended, and pricked, it drains slowly away; if the latter is punctured, it escapes at once. But you will hardly appreciate without reflection the extraordinary rapidity with which this fluid circulates. The late Dr. Bence Jones demonstrated by actual experiment that a small dose of iodide of potassium appeared in the aqueous chamber almost simultaneously with its imbibition; and it is well known when fluorescine is injected under the skin that the play of colours is speedily perceptible in the pupil (Ehrlich). What is the mechanism of this wonderful process? How does this watery fluid get into the eye? and how does it get out of it? According to received physiological views, it is secreted by the choroid, iris, and pigment epithelium of the ciliary folds, permeates the vitreous chamber, passes backwards along the optic nerve, and forwards through the pupil into the aqueous chamber and canal of Schlemm,

whence it finds its way into the episcleral veins, and you can readily understand that any check to its outflow, or excess in secretion, must at once be attended with a rise in tension, and that is precisely what happens when a patient is said to be suffering from glaucoma. If the initial lesion is hypersecretion, the disease is primary or idiopathic; if the outlets are first blocked by accident or pre-existing disease, the affection is, of course, secondary; and it is well to remember that the causes which block the outlets are apt also to excite irritative hyper-secretion, and that excessive secretion, by pushing forward the lens and iris base, is also certain to impede the normal outflow, so that the disease moves in a vicious circle and tends continually to get worse. Primary glaucoma seldom occurs under fifty years of age, and only then, as a rule, in persons with a certain predisposition, but secondary glaucoma may be induced at any age and needs no predisposition. The infant sent here last week by Dr. Walker had marked glaucoma, the result of hæmorrhage between the choroid and retina. It may also proceed from almost any inflammatory affection of the eye, and from various accidents, injuries, and surgical operations. "It is mournful," says von Graefe, "to see how many eyes, after escaping entire destruction from ulceration, as in ophthalmia neonatorum, are afterwards rendered blind by secondary glaucoma, the result of adhesions for which active treatment has not been adopted in time." I have also seen it complicate the various forms of keratitis iritis, sympathetic ophthalmia, and excluded pupil, cataract, dislocated lens, wounded lens, intraocular tumours, ruptured capsule, and extreme myopia.

Of primary glaucoma you will meet with two principal varieties—the simple and the inflammatory. The patient we have just left in the ophthalmoscope room, who is fifty-four years of age, and both of whose eyes are affected, is quite a typical example of the former condition. His wife tells us that he has destroyed his sight by using too strong magnifying glasses, and that his vision varies, being worst at night, worse at some times in the day than at others, and worse on some days than on others. He is a big-framed man, with a full hard pulse, and complains of attacks of dimness of vision, similar to what would be caused by clouds of smoke or fog, with a rainbow round luminous objects. He is subject to headache; the iris is sluggish, and the cornea insensitive. The general acuity of vision is distinctly lessened, amounting to slight short sight; but the peripheral portions of the retina have suffered most, specially, as we ascertained by lamplight (which is best for this purpose), to the inner or nasal side. On ophthalmoscopic examination we found that the optic disc is what is termed cupped, or rather excavated, for it is hollowed out at the sides with overhanging edges, and the pressure which has driven back the papilla has also detached the choroid, so that the disc is surrounded by a whitish ring of exposed sclera. We have ascertained that this is a true excavation and no optical delusion by the parallax, with both the direct and indirect methods of examination, and we have also calculated its depth by reducing to millimetres the different values of the lens required to see the base of the cup and the surface of the retina. "But," you may say, "granting that there is a cup, how do I know that it is a glaucomatous, and not a physiological or congenital cup, or the result of atrophy from absorption of nerve tissue consecutive to cerebral change?" Well, I know that it is a glaucomatous and not a physiological cup, because the physiological cup affects both eyes alike, and in this case the right eye is much the worst of the two. This cup, moreover, occupies the entire area of the papilla, and, most characteristic feature, the vessels are crowded to the nasal side; whereas the physiological cup, however steep it may be, never involves the whole of the disc, and there is no like tucking under, lateral displacement, or changed calibre of retinal vessels. I know this is not a case of simple atrophy, absorption of nerve tissue, or amblyopia from cerebral change, because, apart from other important symptoms, the destruction of the field of vision in cases of atrophy begins on the temporal, and not—as in glaucoma cases—on the nasal side. I know also this is the result of increased tension, because, although there is no spontaneous pulsation of retinal vessels, throbbing is easily induced, as you saw, by the slightest touch on the surface of the eyeball, the artery beating in the centre of the disc and the veins collapsing in concert at its periphery. For the rest, strange to say, the eye looks fairly natural; is not inflamed or congested; nor are the episcleral veins notably enlarged; nor is tension, just now at any rate, very greatly increased. Let us consider what is the cause of these curious symptoms; and first, as to his wife's suspicions. There is no reason to believe that he has been using too strong glasses, for the fact is, the man's accommodation is paralysed from pressure on the ciliary nerves, and strong glasses are a necessity, if he is to see small objects at all. Indeed, you may always suspect glaucoma when a patient is constantly changing his glasses. His vision is worst at night, and varies from day to day, because of slight exacerbations, and because the eye sympathises with fatigue and the general constitutional condition; the clouds of smoke and rainbows are caused by œdema of the corneal epithelium from infiltration with intraocular fluids (Fuchs); the cornea is anæsthetic from pressure on the ciliary nerves as they pass along the inner surface of the sclerotic, and the whole visual acuity is diminished from this cause, as well as from retarded blood supply, the inner or nasal side suffering most, because the vessels supplying the corresponding outer half of the retina have the longest course to run, and are consequently most exposed to pressure. The optic disc is hollowed out because it is the weakest part of the sclerotic, and is therefore the first to give way; the artery pulsates because the intraocular pressure is so great that the blood can only pass at the moment of the heart's contraction; and the fact that all this takes place without any marked hardening of the globe is a proof, either that slight tension long continued will cause grave intraocular changes, or that in this case it has been effected during exacerbations, which are such a distinct feature in almost all forms of glaucoma.

Inflammatory glaucoma, of which you have seen many examples, may prove so intense as to destroy sight in twenty-four hours—hence called *fulminans*. It may resist all treatment, including iridectomy; in fact, get worse whatever you may do—hence called *malignant;* and short of these aggravated conditions, which fortunately are rare, it may occur in a chronic or acute form. The female patient with the green eye (γλαυκον ομμα) *glaucon omma*, to whose case I directed your attention at the commencement of this lecture, is a good example of acute glaucoma. She is fifty-six years of age, has recently lost her husband, and had troubles of various kinds. Six weeks ago she went to bed as well as usual, but was roused in the middle of the night by a violent pain in the right eye, which was swollen, inflamed, and watering freely. She was treated by a local practitioner, but the disease progressed steadily from bad to worse, until at last all perception of light was gone. At present you see that the iris has lost its tint and lustre; that the cornea is dull and anæsthetic; that the eye is as hard as a stone, and that the widely dilated pupil presents a peculiar tint, compounded of a yellow lens and turbid blue aqueous humour. In these cases the disc is not usually cupped, simply because the pressure has not lasted long enough to induce that change. If, however, the fundus can be illuminated, you will see the artery throbbing without any superadded pressure; or, if nothing else is to be seen, the optic disc looming through the turbid vitreous like the sun in a fog. As the disease advances, the iris loses its colour; the pupil dilates, assumes an ovoid form, and is insensible to light; the vitreous and aqueous humour become more or less opaque, and the former has usually so pushed forward the lens and iris base that the anterior chamber is wellnigh obliterated. The patient's sufferings in some cases are little short of agony; in others fever runs high and vomiting is frequent. With many pain is referred to other parts, so that the eye, as the *fons et origo mali*, is apt to be overlooked, and the attendant misled as to the nature of the case. I was once called to a patient whom I found on her hands and knees groaning with her face buried in the pillow. The case had been diagnosed as severe migraine, and six teeth extracted in the hope of relief. Another had had her head shaved and been bled and blistered, on the ground that she was suffering from meningitis; and a third was reported as affected with gastric fever. Iridectomy acted like magic so far as the relief of pain was concerned in each of these cases, but was too late to restore sight in the first two, and was only partially successful in the third. Chronic, inflammatory, and irritable glaucoma present the same symptoms as the acute, but to a less degree; and these forms of the disease, like simple glaucoma, are also characterised by marked exacerbations and remissions.

With regard to treatment. The indications in secondary, consecutive, and traumatic glaucoma are clear enough. We must, whenever possible, remove the cause of disaster.

A broken-up lens that blocks the angle of the chamber or presses upon the iris must be let out; the dislocated lens must be extracted, and tension after capsular operations treated by paracentesis. Adhesions with ulceration require iridectomy; and the same operation must be performed whenever glaucoma complicates iritis, irido-choroiditis, and excluded pupil. As to cases of simple and inflammatory glaucoma, it has been very generally taught that all the resources of the Pharmacopœia are powerless to cope with these maladies—an assertion hardly, however, in accordance with facts; for just as a sudden fright, probably by dilating the pupil, may cause or precipitate an attack of glaucoma, so will eserine, by inducing an opposite condition, avert it. Just as anxiety and prolonged vigils may cause increased tension, so will morphia or other hypnotic, if it ensure profound sleep, abort it. Just as a rise in blood pressure from excitement and derangement of the sympathetic and fifth nerve may provoke excessive secretion, so will medication, such as blood-letting, ice, or hot fomentations, elaterine, eserine, pilocarpine, and large doses of quinine (10 grains, Mittendorf), tend to stave off an attack or mitigate its severity. I do not say that such remedies will avail in a severe case, cure or prevent recurrence in slighter ones, or avert gradual deterioration of sight in any; but there is no doubt that the disease may be kept at bay for a time by judicious medication, and it would be unwise to ignore the value of such remedies when from any cause operation is postponed.

(To be concluded.)

ON RAPID DILATATION OF THE CERVIX UTERI.[1]

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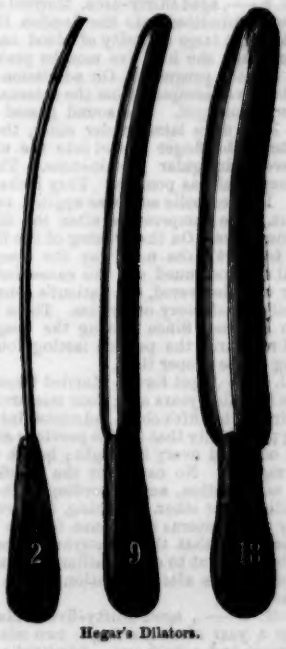
THE object of the present paper is to draw attention to the safety and other advantages of the rapid method of dilatation of the cervix by means of Hegar's dilators, as contrasted with that of dilatation by tents. Although this rapid method is familiar to gynæcologists, it is not by any means so generally well known as it deserves to be—probably because these dilators are not figured in any of the works on diseases of women commonly used in this country; and I think it may be said that when the necessity for dilating the cervix arises most practitioners still rely on the older method—slow dilatation by means of some form of tent. The disadvantages and dangers of tents are, however, so serious, that I think anyone who will give the rapid method a fair trial will be inclined to abandon the use of tents altogether. Dilatation by tents is not uncommonly followed by more or less severe attacks of pelvic inflammation, peri- or para-metritis, and several deaths from their use have been recorded. Probably, if during the process of preparation all tents were impregnated with a powerful antiseptic, these bad results might be avoided. At present this is not done; and even if it were, we could never be personally satisfied that the particular tents about to be used had been efficiently rendered aseptic by the manufacturer. By using Hegar's dilators any danger of septic poisoning can be entirely avoided.

Hegar's dilators are slightly curved ebonite cylinders about three inches and a half long, the distal end forming a blunt cone and the proximal being fitted with a handle. There are twenty-six sizes usually supplied, the transverse diameter varying from one-twelfth of an inch to one inch. (See Fig. 1.) The method of using them is as follows:—The patient is put in the lithotomy position, and the vagina thoroughly syringed with some efficient antiseptic, such as 1 in 2000 corrosive sublimate solution. Sims's speculum is introduced and the anterior lip of the cervix seized with a pair of vulsellum forceps, preferably a pair having a catch at the handles like Spencer Wells's forceps. The direction of the uterine cavity is then ascertained with an ordinary sound. The dilators should have been previously placed in numerical order in a shallow porcelain tray and covered with a 1 in 20 carbolic lotion. One of the dilators corresponding to the supposed calibre of the cervical canal is then dipped in carbolised oil and passed through the cervix, which is held steady by the vulsellum forceps in the left hand. If the dilator used only passes with difficulty, it is held in position a minute or two before withdrawing it. It is important to have the next larger size ready to pass at once after withdrawing each dilator. In this way the dilators are passed one after the other till the cervix is sufficiently open to admit the finger. This degree of dilatation is usually obtained after No. 19 of the series has passed. If any morbid condition is discovered in the cavity of the body of the

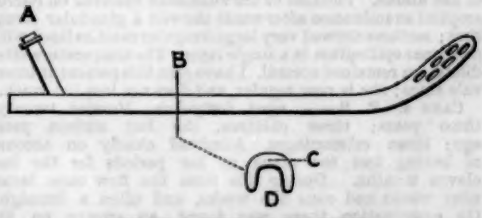
FIG. 1.



Hegar's Dilators.

uterus, this is treated by suitable means. Polypi, for instance, or pieces of placenta can be removed. If a growth of doubtful character is discovered, a small portion may be removed for microscopical examination. Whether anything abnormal has been found in the interior of the uterus or not, it is of great importance to wash out that organ with carbolic lotion or iodine water. For this purpose nothing answers better than the double-channelled tube shown in Fig. 2. No matter how tightly

FIG. 2.



TUBE FOR WASHING OUT THE UTERUS.

The indiarubber tube of an ordinary Higginson's syringe fits on at A. The horseshoe shape of the tube on transverse section at any part (say B) is shown. The fluid injected at A passes between the layers of the tube, as at C. This fluid, after escaping from the holes at the distal end, returns along the groove D, which runs on the under surface of the tube for its whole length.

the tube may be grasped by the uterus, the fluid injected readily escapes along the deep groove on the under surface. These tubes are made of celluloid or glass. Those used in my cases were of celluloid. Subsequently the patient should have antiseptic vaginal douches three times a day for a few days; iodine water is the antiseptic I usually employ for this purpose. If the dilatation is per-

[1] Read before the Harveian Society of London.

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formed soon after a miscarriage, or soon after labour, no anæsthetic is needed, but in other cases it is necessary. The only objection of importance that has been made to the use of Hegar's dilators is, that they are apt to cause deep lacerations of the cervix. I do not think this is an objection of much practical weight. I have used them in a good many cases, and seen them employed in many others without any laceration occurring, and I think this accident must be due to too great force having been employed. In the following seven cases the cervix was dilated with these instruments.

Case 1.—E. S——, aged thirty-nine. Married sixteen years; seven children. Admitted into the London Hospital complaining of losing a large quantity of blood on and off ever since a miscarriage she had five months previously, when about three months pregnant. On admission it was found that some blood was escaping from the external os, and that the uterus was enlarged. The sound passed three inches and a half. Four days later, under ether, the cervix was rapidly dilated: the finger passed into the uterine cavity came on several irregular prominences. These were removed as completely as possible. They looked like pieces of placenta. Pure carbolic acid was applied to the interior of the uterus. The temperature after the dilatation was normal for four days. On the evening of the fifth day there was a rise to 101·4°; the next day the temperature was again normal and continued so. No cause for the rise on that one day was discovered, the patient's general condition being perfectly satisfactory otherwise. Three months later she came to see me. Since leaving the hospital she had menstruated regularly, the periods lasting four days only, and recurring at the proper time.

Case 2.—J. L——, aged forty. Married twenty years; six children, the last nine years ago; four miscarriages, the last before the birth of her fifth child. Admitted into the hospital complaining principally that for the previous six months her periods had occurred every fortnight; before that she had been quite regular. No cause for the bleeding was discovered on examination, and, accordingly, the cervix was dilated rapidly under ether. Nothing, however, was found in the cavity of the uterus to account for the bleeding, and it seemed probable that the menorrhagia was due to the menopause being about to occur earlier than usual. In this case the temperature after dilatation of the cervix never rose above normal.

Case 3.—M. W——, aged thirty-five. Married sixteen years; twins a year after marriage; two miscarriages, the last eleven years and a half ago. Admitted at the hospital on account of menorrhagia of fifteen months' duration. She had been under treatment in the out-patient department, but had obtained no relief. On examination, the uterus was found to be enlarged, and the sound passed four inches. The uterus was freely movable. The vaginal portion of the cervix was healthy. The cervix was rapidly dilated under ether. On passing the finger into the body of the uterus, soft irregular projections, particularly extensive on the right side, were met with. These were thoroughly scraped away with a spoon, and tincture of iodine applied to the interior of the uterus. Portions of the substance removed on microscopical examination afterwards showed a glandular structure; sections showed very large irregular cavities lined with columnar epithelium in a single layer. The temperature after dilatation remained normal. I have seen this patient at intervals since; she is now regular, and does not lose too much.

Case 4.—E. B——, aged forty-five. Married twenty-three years; three children, the last sixteen years ago; three miscarriages. Admitted chiefly on account of having lost too much at her periods for the last eleven months. During this time the flow once lasted nine weeks and once five weeks, and often a fortnight. On examination there was found an erosion on the anterior lip of the cervix; for a time it was thought doubtful whether it was not commencing malignant disease. Under local treatment, however, the erosion improved rapidly, but the menorrhagia was still as bad as ever; the cervix was therefore rapidly dilated. A little sessile lump the size of a split pea was found in the cavity of the uterus near the point of entrance of the right Fallopian tube; it did not admit of removal. The temperature after dilatation remained normal in this case also. This was probably one of the menorrhagic cases commonly met with, apart from local disease, about the time of the menopause.

Case 5.—H. H——, age thirty-seven. Married fifteen years; no children; one miscarriage ten years ago. Admitted complaining of having lost too much at her periods for the last six years, sometimes bleeding for three weeks at a time. The cervix was rapidly dilated till the finger could be passed into the uterine cavity. Nothing abnormal was detected. In this case it is worth noticing that the time occupied in dilating the cervix was only twenty minutes. The patient had had no children, and the external os was small. The temperature on the second day was 100·8° in the evening, but except on that occasion was normal throughout.

Case 6.—G. M——, aged thirty-nine. Married eight years; had one child when she was fifteen years old; none since. Admitted into the hospital complaining of having had a red vaginal discharge for three months. Three months previously she had one of her ordinary menstrual periods, but instead of this passing off in the usual way she continued to have a red discharge till she came to the hospital. In the out-patient department no cause was found for the hæmorrhage, and she was therefore taken in that further investigations might be made. When the anterior lip of the cervix was seized with vulsellum forceps preparatory to dilatation the lip was necessarily somewhat everted, and it was at once evident that there was malignant disease within the cervical canal that had not extended beyond the external os. The cervix was rapidly dilated, and it was found that there was extensive malignant disease in the cervical canal. The cavity of the body of the uterus was healthy. As here we are only concerned with the case so far as it was affected by dilatation of the cervix, I need only say that on the evening of the day when dilatation was performed the temperature was 100·2°; but after that it remained normal.

In the preceding six cases dilatation of the cervix was performed in the non-pregnant condition, in the following case it was done at the sixth month of pregnancy for the purpose of terminating the pregnancy on account of persistent hæmorrhage that was seriously affecting the patient.

Case 7.—Mrs. F——, aged thirty-seven. Married thirteen years; had had four children, the last five years ago; no miscarriages. She was brought to me by Dr. Cockell of Dalston complaining of attacks of pain from time to time across the lower part of the abdomen and back, and of irregular hæmorrhages. Three months before I saw her she had an attack of bleeding lasting five weeks; then she went a month free from bleeding; then it came on again, small clots being passed. The bleeding continued till the time I saw her. The uterus was about the size it reaches at the sixth month of pregnancy. The patient was a good deal pulled down by the bleeding, and it was clearly desirable that the uterus should be emptied as soon as possible. Accordingly the cervix was dilated with Hegar's dilators. As soon as it was sufficiently open to admit of my finger I felt the placenta attached right over the internal os; in fact, it turned out to be a case of placenta prævia. I separated the placenta all round as far as I could reach, and then ruptured the membranes, brought down a leg, and so delivered. The whole period occupied from the time she began to take the anæsthetic till the uterus was emptied was one hour and twenty minutes. Strict antiseptic precautions were used, the vagina being washed out with iodine water before beginning, and the uterus washed out afterwards with the same antiseptic. Two or three injections of ergotin were given hypodermically during the operation. Dr. Cockell wrote to me some time after to say that the case had done extremely well, and that the temperature had never risen above normal. I certainly think that if this case—one of placenta prævia—had been treated by tents instead of the rapid method of dilatation the record would have been a very different one.

PROPOSED COTTAGE HOSPITAL AT ROMFORD.—Early in the year it was resolved to commemorate Her Majesty's Jubilee in the neighbourhood of Romford, Essex, by the establishment of a Cottage Hospital. Tenders for the erection of a hospital capable of accommodating eight patients on a site generously given by a local landowner, W. Mashiter, Esq., have been accepted, and it is hoped that the hospital will be opened before the year closes. The hospital, which is intended to accommodate the residents of the liberty of Havering atte Bow (which includes the parishes of Havering, Hornchurch, and Romford) will cost about £600 for its erection. The committee, of which Mr. A. Wright, M.R.C.S., is treasurer, and Mr. F. Wilson, secretary, have received promises of support to the extent of £350 towards the building and furnishing fund, and £150 as annual subscriptions.

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A CONTRIBUTION TO THE PATHOLOGY OF THE BLOOD.

BEING AN ACCOUNT OF CERTAIN CRYSTALLINE CHANGES OCCURRING IN THE HÆMOGLOBIN AFTER WITHDRAWAL FROM THE BODY, IN THE SUBJECTS OF CERTAIN DISEASES, ESPECIALLY THOSE OF SEPTIC ORIGIN.

BY C. J. BOND, F.R.C.S.,
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PART I.

I MAKE no apology for bringing forward again the well-known subject of crystallisation of the hæmoglobin of the red blood corpuscles; for I think, when viewed in the light about to be described, it is capable of suggesting many useful hints towards the better understanding of the pathology of many diseases, especially those which are associated with the septic processes.

If a drop of normal human blood be drawn from the finger, placed on a slide, and covered with a cover glass, no crystallisation of the hæmoglobin occurs. A ring or cake of dried serum forms around the edge of the cover glass, keeping the blood fluid within for many days; and although some changes occur, such as partial exudation of the hæmoglobin into the serum, there is no crystallisation of the hæmoglobin either in the serum or corpuscles. This is true

FIG. 1.

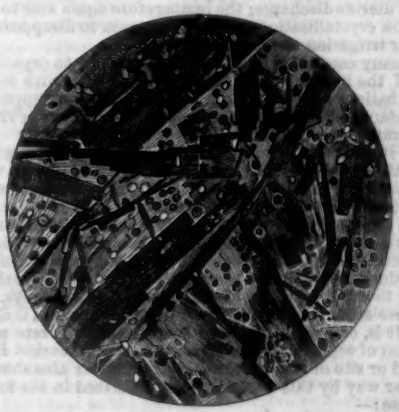
Normal human blood to which has been added a drop of putrid serum: after twenty-four hours. Shows early stage of crystallisation in septic blood, chiefly in red corpuscles. The ink dots (·) are placed near the corpuscles which show the change best—namely, the ridged, barred appearance, or the flat square plate or crystal form.

of the blood of many of the mammals under like conditions—i.e., the blood of the ox, sheep, dog, cat, mole, rabbit, and guinea-pig: and also in the nucleated blood of birds, frogs, toads, and newts. On the other hand, the blood of the apparently healthy mouse, both wild and tame varieties, shows, under the same conditions, well-marked crystallisation of its hæmoglobin, both in corpuscles and serum, in from twenty to thirty hours. Between these two extremes are many stages, the blood of different animals varying greatly in its tendency to crystallise when withdrawn from the body, that of the same animal varying also according to the healthy or diseased condition it may be in at the time. It is to this crystalline change which human blood undergoes when withdrawn from the body in certain diseases that I wish to draw attention, and especially in those diseases which are associated with the presence in the body of the pathogenic organisms.

At the outset, I would have it clearly understood, that what I maintain, and what I hope to prove, is, not that the blood crystallises in the body in the subjects of septic diseases, but that in certain animals, and in man, under certain conditions of disease, the blood, after withdrawal from the body, shows under the microscope a tendency for its hæmoglobin to undergo exudation and crystallisation, in a period of time varying from twelve hours to several days. Neither do I wish to claim for this phenomenon more importance than it deserves; but value it rather from the way in which, though itself a post-mortem change, it enables us to group together certain diseased conditions, and in these remarks I desire to point out the various diseases in which this crystalline change occurs.

In the first place, as these crystals are somewhat easily overlooked, it may be well to give an example and describe the actual appearances under the microscope. If a drop of blood be taken from the cleansed finger of any patient who is suffering severely from absorption of the products of putrefaction either in a wound or elsewhere, and if such a drop of blood be placed between a slide and cover glass and allowed to remain at the ordinary temperature of the room (60° F.), it will be found that, though it may appear quite normal at the time of withdrawal, after a time varying from twenty to thirty hours, the specimen will show the following changes:—First, the exudation of the hæmoglobin out of the corpuscles into the serum in an area round the margin of the cover glass is in excess of the exudation in normal blood, and gives the serum a marked yellow tinge. Secondly, in a zone just inside this ring or area the corpuscles have lost their spherical or disc-like shape, and have many of them become single, or several crystals of hæmoglobin, and show the prismatic or needle shape peculiar to those crystals; while in some few corpuscles the inside of the corpuscle has apparently crystallised, and the little bars or

FIG. 2.



Normal human blood to which has been added a drop of putrid serum: after two days. Shows later stage of crystallisation which has occurred in the hæmoglobin dissolved in the serum.

needles can be plainly seen inside and apparently distinct from the enclosing stroma. Further, in a marked case the crystallisation will have proceeded further, and have occurred in the form of long parallelograms or needles in the area of exudation mentioned above. In fact, the amount of exudation and the fulness of crystallisation are in proportion to the severity of the symptoms—that is, to the amount of poison absorbed. In a very slight case there is no apparent change; in one in which absorption is more complete or prolonged over a longer time there is slight excess of exudation with crystallisation in a few scattered corpuscles; in a fatal case the whole slide may appear studded with crystals. (See Figs. 1 and 2.) Now since this change does not show itself while the blood is still in the circulation, we can only call it a tendency existing in the circulating blood of patients who are the subjects of certain diseases to undergo, after withdrawal from the body, a peculiar crystalline change, a tendency which is not so shown by the blood of healthy persons. For several years I have examined the blood of many hundreds of patients in this simple way with reference only, or chiefly, to this point of crystallisation, noting down what occurred and the condition of the patient. I propose firstly to give in an abstract form, the result of this examination, grouping the cases under the several heads of the different diseases; and then

to offer some remarks on the nature of the change that the blood undergoes.

Sapræmia or Septic Intoxication.—In this affection the symptoms—rigors, high temperature, sickness, diarrhœa, headache, or delirium—are due to the presence in the circulation of an unorganised substance, the product of decomposition, and associated with the life history of the organisms of putrefaction, the poison itself being called by various names—sepsin, xymin, &c. In severe cases the crystalline change is well marked. It varies, moreover, in direct proportion to the amount of poison absorbed, and to the interval elapsing between its introduction and the withdrawal and examination of the drop of blood. The following case illustrates these points:—

A patient was suffering from decomposition of a retained placenta, having a temperature of 106° on the second day after delivery, a pulse of 150, rigors, delirium, pain in the bones, and diarrhœa. The blood at this time, examined by Koch's method, showed no organisms whatever, but after remaining on the slide sixteen hours, marked crystallisation of the red corpuscles could be seen. The placenta was removed under $CH.Cl_3$, and the uterus thoroughly washed out with carbolic acid lotion. On the following morning—that is, in about twenty hours after the removal of the placenta—the temperature was normal and the pulse 100, the patient being almost convalescent. The blood now showed no tendency to crystallise at all, proving that, the source of the poison having been removed, and that already in the circulation having been excreted or destroyed, the blood had regained its normal condition in less than twenty-four hours. But, further, in two days' time slight decomposition again occurred in the uterine discharge; the temperature again rose to 102°, and the crystallisation reappeared, again to disappear on a further irrigation of the uterus.

In many cases of a like kind this tendency to crystallisation of the hæmoglobin has coincided in time with marked exacerbations of symptoms of septic absorption—appearing, for instance, shortly after the occurrence of rigors or rises of temperature, and disappearing as these subside.

But it must not be supposed that the absorption of a small amount of poison will produce this change in the whole volume of the blood. I have not found it in cases of wounds or abscess where the rise of temperature and the other symptoms of absorption have been only slight; in fact, it seems as though considerable and repeated doses of sepsin are required to change the whole blood in the body sufficiently to produce the tendency to crystallisation: whether this be owing to rapid excretion of the poison by the kidneys, or to some resisting power on the part of the corpuscles, is doubtful. It is, of course, also well known that the rate of absorption of sepsin depends somewhat on the tension in the wound or site of its production. This fact is also shown in another way by this crystallisation described in the following case:—

The blood was examined from the finger of a patient with a feculent abscess in a neglected and inflamed hernial sac. It showed marked crystallisation in forty-eight hours. A free incision was made, and the pus let out. Sixty hours afterwards, the tension having disappeared, although the cavity continued to discharge a quantity of most offensive pus, the crystallisation could no longer be detected.

The Septic Infective Diseases: Septicæmia and Pyæmia.—I have examined the blood repeatedly in many cases of septicæmia and pyæmia—in cases which have and in those which have not been accompanied with abscesses in the internal organs, with suppuration of joints, and with secondary localised inflammation of the connective tissues. The crystalline tendency does not seem so constant or in such direct proportion to the severity of the symptoms at the time as in the case of sapræmia or septic intoxication, although it is present in most cases of septicæmia, and in nearly all fatal cases towards the end of the disease. It varies, too, in the extent of the crystallisation and in the length of time the blood must stand on the slide after withdrawal before it appears, from day to day of the illness, and seems to have more connexion with the amount of poison absorbed at each separate septic focus than with the number or position of the abscesses. It appears, in fact, to depend not so much on the presence of the organisms in the blood as on the chemical products of their growth, and this view will receive further confirmation when we speak of anthrax.

Erysipelas and Erysipelatous Inflammation of Cellular Tissue.—In slight cases of this affection, where the local affection is not very extensive and the constitutional symptoms slight, the general blood, or that from the general circulation, shows no change. When, however, there is marked constitutional disturbance, the crystallisation appears in from twenty-four to forty-eight hours after withdrawal. But it was in the case of erysipelas that a difference was first noticed according to the site from which the blood was taken. Thus in the case of a man with marked erysipelatous cellulitis of hand and forearm without suppuration, the temperature being 104°, blood taken from the margin of the inflamed area crystallised fully in twenty-four hours, whereas a drop taken from the finger of the other hand only did so very partially after forty-eight hours. Also in a case of so-called "perambulating" erysipelas, in which the erysipelatous wave started from the breast and travelled over the greater part of the body, blood taken from the red inflammatory area about four inches wide crystallised well, while that taken from the healthy skin in front of the wave and from the tissue which had recovered after the wave had passed over it, showed little or no change. Thus we see that blood taken from a part of the body which is the site of an inflammation of an infective character shows a tendency to undergo crystalline degeneration, whereas the general blood of the body in such a case only does so after long and repeated constitutional infection. We must remember not only that the poison, whatever it be, is manufactured at this area, but that in addition, owing to the extreme local vascular congestion, the blood is more or less stagnant here and lies long in contact with the inflamed tissues, and perhaps also with the organisms themselves; but this point will receive further consideration later on. It is sufficient here to suggest that, owing, perhaps, to rapid excretion, the poison only reaches in extreme cases a sufficient degree of concentration in the general circulation to produce this change in the whole volume of the blood. Whether the red corpuscles so damaged at the inflamed area recover on reaching the general circulation, or, as is more probable, undergo speedy disintegration in the liver and elsewhere, cannot yet be known; for not having the crystalline mark upon them while in the circulation, but only having been sufficiently injured to render them liable to show this change after withdrawal from the body, we cannot by this sign alone follow out their individual life histories. The anæmia and well-known rapid destruction of red corpuscles in the subjects of infective disease seem to support the latter view.

Facial or so-called Idiopathic Erysipelas.—In this variety, which also probably depends on infection through an unrecognised channel, the local affection is in most cases too limited to produce any general crystalline change.

Diphtheria.—This, like erysipelas, of course occurs in the two forms of wound infection, and the more frequent primary throat manifestation. I have examined the blood in many cases of the latter variety at all stages of the disease. The general crystalline tendency is not constant if present; it only occurs after the blood has remained on the slide from forty-eight hours to three or four days, and appears to bear some slight relation to the amount of constitutional infection, and very little to the local symptoms.

Typhoid Fever.—In all the uncomplicated cases of typhoid in which I have examined the blood—that is, cases arising in previously healthy persons, and uncomplicated with pneumonia, bedsores, abscesses, &c.,—the crystalline blood change has never been detected. This is somewhat remarkable when we remember that typhoid fever, like diphtheria and erysipelas, is a specific disease having a local manifestation in the intestines and constitutional effects, as seen in the rash, &c.; in this it resembles measles, scarlet fever, and small-pox, and it is interesting to note that, as in typhoid fever, so too the crystalline change is also absent in uncomplicated cases of *measles*, *scarlet fever*, and *small-pox*. *Typhus* I have not had an opportunity of examining. With regard to this latter group of diseases—diphtheria, typhoid, measles, and scarlet fever,—there are one or two interesting points which need further remark. They are more or less protective (that is, one attack confers immunity from a second) in a gradually increasing degree as we ascend the series: diphtheria least so; scarlet fever most so. Also diphtheria is perhaps the most local, and scarlet fever the most general or constitutional in its manifestation. And, as if to correspond to this, diphtheria at one end of the series shows the crystalline blood change slightly, while it is absent in the other diseases. What is the exact meaning of this association we are not yet able to say.

Anthrax, or Splenic Fever.—This is, perhaps, the one example of a disease having an infective origin of which the pathology or life history is fully known. First, in animals. In guinea-pigs, although the blood readily crystallises when treated in certain ways, it never does so when normal blood is placed on a slide in the manner described above; it does, however, crystallise on the slide if the animal be suffering from, for instance, a septic peritonitis, thus showing that the change is a test of some value in the case of these animals. A guinea-pig was inoculated subcutaneously with anthrax spores; in forty-eight hours it died, with marked symptoms of splenic fever. The blood examined at various stages of the disease was crowded with the bacilli, but showed no tendency to crystallise on the slide either in the corpuscles or in the hæmoglobin that had exuded into the serum.

In the case of a veterinary surgeon who became inoculated while making a post-mortem on a cow, dead of splenic fever, a well-marked characteristic malignant pustule appeared at the site of inoculation on the wrist. Examination of the discharge from this showed great numbers of the bacillus anthracis; the patient recovered after energetic injection round the pustule of pure carbolic acid. The general blood was examined before and during treatment; no bacilli were detected in it, and it never showed any crystalline tendency.

This was a case of so-called external anthrax or malignant pustule, in which the constitutional infection was very slight, and the influence of the organisms or the absorption of poison at the site of inoculation insufficient to produce a crystalline change in the whole volume of the blood. A distinction must be drawn between these cases and those of internal anthrax, in which the spores are received into the lungs; in these cases the constitutional effects appear to be more marked, and I have not been able to examine the blood in them. Judging, however, from the facts in animals, it would seem that anthrax ought really to be looked upon as a mycosis; that death is brought about by the invasion and plugging of the capillaries and lymphatics of the host by the thousands of bacilli, and not by the manufacture of any chemical poison, and this view receives some confirmation from the absence of the crystalline change in the blood in this disease.

Pneumonia.—The relationship between this disease and the presence of the organisms first described by Friedländer is now fairly well established. Whatever be the real relationship, however, whether the high temperature, &c., is the result of absorption of chemical products in the affected lung or due to other causes we do not know. In these acute cases the crystalline tendency is not at all constant, it was absent in a well-marked case in a boy with a temperature of 106°, and it only appears in fatal cases just before death or in long-continuing cases attended with breaking down of lung tissue. In the absence of further evidence, I think another cause besides septic absorption will be found to explain the high temperature and constitutional symptoms, and I think the absence of the crystalline change points to this suggestion.

Ague.—I have examined the blood in several well-marked cases of ague in the pyrexial and following stages, and have not noticed any alteration of the corpuscles in the direction of crystallisation. Although ague is known to be caused by the presence of organisms in the system, we do not yet know the pathology of its latency and periodicity. If again the symptoms are due to absorption of chemical products, this is not sufficient in amount, or prolonged enough in time, to affect the whole volume of the blood.

Phthisis.—In this disease the cystalline tendency can generally be detected towards the end of fatal cases. In some acute cases it is, however, absent.

General Tuberculosis.—Two cases were examined, and no change detected.

Cancrum Oris.—Blood taken from the finger in a well-marked case of this emphatically infective process showed marked crystallisation in twenty-four hours.

Reviewing, then, this list of so-called infective diseases in which the blood has been examined, we find that the crystalline tendency is most marked in those diseases in which there is commonly the greatest evidence of absorption of chemical products; these are sapræmia, septicæmia, and pyæmia, erysipelas, cancrum oris, and advanced cases of phthisis. In the others it is inconstant or absent, and, as has been pointed out in the case of anthrax, this absence may suggest the possibility of the constitutional symptoms in these cases being due not merely to chemical absorption, but to some other as yet unknown factor or factors; this applies to such diseases as typhoid, pneumonia, scarlet fever, measles, &c. If we allow ourselves to speculate a little further on a question regarding which the evidence is at present very incomplete—if, for instance, we regard the immunity from subsequent attack conferred by one attack of many of these diseases to be due to the fact that the products or substances evolved and circulating during the first attack have so acted on and changed the blood and tissues as to render them proof against further invasion by the same organisms—then, judging from the foregoing observations, it would appear that it is not the absorption and circulation of the highly differentiated protective product which produces in the blood this crystalline change, for it is absent in scarlet fever, measles, &c.; but that the less differentiated non-protective simple product of putrefaction does so to a marked extent, as in sapræmia, &c., and this points to a marked difference in the products produced by the life and growth of different organisms.

ON A CASE OF CARDIAC DILATATION.

BY GRAHAM STEELL, M.D.,
ASSISTANT PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY.

IN THE LANCET of Aug. 14th, 1886, I recorded a case of heart disease as an example of that considerable class in which the primary incidence of disease is upon the muscle, and not upon the valves. I am now induced to publish a somewhat similar case, which, however, offers one important difference—namely, the absence of murmur. Although in the former case the murmur disappeared under treatment, and was thus a temporary feature, the importance of the difference referred to is not on that account diminished. The coincidence of the disappearance of the murmur with recovery naturally pointed to regurgitation through the mitral curtains, consequent on defective muscular adaptation, as the cause of the circulatory disturbance. Further, an important, if not the essential, *rôle* in the production of the dilatation of the ventricle may be claimed for the valvular incompetence with some reason. In the case of structural damage of the mitral valves entailing their incompetence, we know how often dilatation of the left ventricle takes place. This is seen especially in the young, in whom there is least likelihood of inherent defect of the heart muscle. The explanation of the dilatation under the circumstances is, probably, that the obstruction to the circulation—namely, the backward flow into the auricle—reacts during the diastole on the ventricle, which then receives an abnormally large amount of blood as the result of the valvular incompetence. The first tendency is to dilatation; only afterwards does hypertrophy become established. In the case now to be described there can be no such explanation of the dilatation, at least if it be granted that mitral incompetence is expressed clinically by murmur. In the full intensity of the disturbance of the circulation we had, I believe, trustworthy evidence of the competence of the mitral valves, yet the circulatory disturbance was the same in both my cases—pulmonary congestion and general venous stasis,—and yielded in precisely similar manner to the same treatment.

It has long been known that there is a form of cardiac dilatation which during life is accompanied by no evidence of valvular incompetence of any kind, and in which the circulatory disturbance is identical with that commonly resulting from valvular incompetence. Before the capacity of the left ventricle is increased, I hold that one of two events has occurred—namely, valvular incompetence or imperfect emptying of the ventricle, the so-called *asystole*, a condition which I shall term *systole catalectic*. Let us take, for example, a simple case of aortic stenosis carried to a considerable degree. It seems to me that no enlargement of the left ventricle will occur so long as two conditions are fulfilled, and these two conditions are (1) that the mitral valves shall remain competent, and (2) that the ventricle shall complete its systole on every occasion. We know that in health the supra-papillary space of the ventricle contains a small quantity of blood at the end of systole, and by a completed systole I only mean the normal emptying of the chamber. Systole catalectic must, I fancy, be a more common result of a failing ventricle than we are wont to

believe. Do not the huge rounded ventricles which we so often see on the post-mortem table emphatically teach this? Can we imagine that these huge deformed ventricles have closed in normal fashion for weeks or months before the patient died? To return to aortic stenosis: The obstacle which this lesion opposes to the circulation the ventricle encounters during the systole, and to enable the ventricle to overcome the obstacle increased power in its wall is alone necessary. Hypertrophy—not dilatation—results so long as the conditions that I have named are fulfilled. Their fulfilment, however, implies a well-nouriahed heart. Should the nutrition of the heart fail, its contractile power inevitably also fails; and whether it be mitral incompetence or systole catalectic, or both, that follows, the ultimate result is the same—dilatation. What has been said of aortic stenosis applies with equal force to the high arterial tension associated with Bright's disease and other states. When there is incompetence of the aortic valves in place of stenosis of the aortic orifice, all the circumstances of the case are altered. The obstacle opposed to the circulation is met by the ventricle during diastole in the first instance. Yet it has to be overcome by the ventricle during systole. The very transference implies a degree of dilatation. From the outset here the tendency is to dilatation, and only later does hypertrophy come, as it were to the rescue.

Both in the case which I formerly published and in that which I now publish failure in the nutrition of the heart muscle seems to have been the first morbid change. In the former mitral incompetence became early established; in the latter systole catalectic supervened, while the mitral curtains closed normally. I am unable to give an explanation of the different effects in the two cases respectively. The general resemblance to Bright's disease of the case to be narrated is very remarkable. It would have been still more so had there been albuminuria, which one cannot regard as other than a likely consequence of the disturbed circulation. Had albuminuria existed, it would in all probability have proved transient. On the other hand, it must be remembered that cardiac failure is a not very rare accident in Bright's disease, and it is then of much importance, in regard to treatment, to recognise the cardiac element in the case. When this combination exists, the characteristic high arterial tension of Bright's disease disappears, and the pulse becomes of low tension, and so resembles the pulse of mitral regurgitation.

T. S——, aged thirty-two, a carter, was admitted into the Manchester Royal Infirmary on July 8th, 1887, having presented himself at the out-patient department on the previous day suffering from dropsy of the lower and upper extremities, and of the trunk and scrotum. Nine weeks before admission he had a fit one morning while at work. His tongue was not bitten, but he believes that he was convulsed. He was quite unconscious for a time. He went back to work the same day, but felt very dizzy. Five weeks before admission he noticed swelling of the lower extremities as high as the thighs, and gave up work. A fortnight later, while going upstairs he became very breathless; but for the last three years his wind has been bad, exertion bringing on shortness of breath. He noticed his arms swollen for the first time on July 7th, and his scrotum only on the day of admission. He has suffered more or less from cough and expectoration for the last ten years. Two years ago he expectorated some blood after coughing severely. Several weeks later he had a sharp attack of epistaxis. With these exceptions his health has been very good. There is no history of syphilis, rheumatic fever, or gout, nor, indeed, of any illness before the occurrence of the fit. His father died at the age of forty-five of heart disease; he had been known to be suffering from the complaint, but died after a quarter of an hour's serious illness. His mother died at the age of thirty-four, but the cause of death is unknown. He had two brothers and a sister, but all three died before the age of twelve; the last was killed by accident, and the cause of death of the brothers is unknown. The patient is a widower, and had six children, but all died within a year of birth except one, who survives, aged fifteen. He is a well-built, strong-looking man, of rather fair and healthy complexion. His lower extremities, trunk, and arms (including hands) are œdematous, and pit on pressure. He can lie upon his back, or upon either side, without discomfort. There is no arcus senilis. There are no tophi on the ears. Temperature in axilla 98·4°. Since the age of fifteen the patient has been in the habit of drinking beer freely. He has taken spirits very seldom. Of late years his daily allowance of beer has amounted to four or five pints. He has no cardiac pain and no dyspnœa while at rest. He has suffered from palpitation after exertion, but there is none at present. The pulse is full, soft and regular (see Chart 1). On inspection of the chest, a slight diffuse pulsation is visible in the fifth space, in and to the left of the nipple line, also in the epigastrium. The impulse is barely perceptible with the hand, being very weak and ill-defined. The external jugulars are distended, and pulsate slightly. The arterial pulsation in the neck is perhaps exaggerated. The heart is ascertained by concussion to be considerably enlarged, both sides taking part in the enlargement. The maximum extent of dulness from the middle line is to the right two inches, to the left five inches and a half. There is no dulness above the third rib. There is no murmur audible in any area. The first sound is somewhat dull and prolonged. The second pulmonary sound is somewhat accentuated. In the mammary line the lower liver border is situated two inches below the costal margin. The total hepatic dulness in the same line measures six inches. A few rhonchi are heard over the lungs generally. Over the base of the right

CHART 1.

lung posteriorly there is dulness, loss of vocal fremitus, and diminished breath sound. The chest wall is very œdematous. The urine is of a deep amber colour, acid, and deposits lithates; sp. gr. 1021. Not a trace of albumen can be discovered by any of the following tests: cold nitric acid, boiling picric acid, and the acid saline solution.

July 11th: Pulse 84; respiration 24. Complains of having no use in his legs, but has complete power of movement of them. He is very breathless when he gets out of bed. Thick lithate deposit in the urine, which contains no albumen. Yesterday he began taking the following mixture: infusion of digitalis, 4½ oz.; tincture of squills, 3 dr.; infusion of senega, 12 oz.: one fluid ounce three times a day. Dulness at the base of the right lung less; fremitus perceptible; fine crackling sound with inspiration over dull area.—12th: To have 5 grains of calomel to-night.—13th: Digitalis mixture to be taken only twice daily.—14th: Urine less deep in colour, and does not deposit lithates.—17th: To have only one dose of digitalis to-day. Legs still œdematous; lower part of the back very œdematous; passing more

CHART 2

urine.—18th: Two doses of digitalis.—19th: One dose in the morning.—20th: Digitalis stopped. Dropsy practically gone; no pitting on pressure anywhere; feels quite well except in legs, which are somewbat stiff down the backs; tongue clean and moist. Respiration 28; pulse 72. A few rhonchi are audible over the chest, and there is a little frothy mucous expectoration. Ordered the following mixture: tincture of nux vomica and tincture of perchloride of iron, of each 2 dr.; water to 12 oz.: one fluid ounce three times a day, also a cough mixture, if the cough is troublesome. At the apex of the heart the sounds are deficient in tone, but there is no murmur either here or at the base. Since the last report the aortic second sound has gained much in intensity, while the pulmonary second sound has diminished in intensity. The lower border of the liver is now situated in the mammary line barely an inch below the ribs. A sphygmogram taken to-day shows a very decided increase of vascular tension. (It closely resembled the tracing taken on the 23rd, and appended.)—23rd: Sphygmogram taken to-day (see Chart 2).—24th: Patient allowed to get up to-day. He is quite convalescent.—28th: Percussion

of the heart to-day shows a decided diminution of dulness to the right of the middle line, and it now extends only one inch from mid-sternum in that direction. The dulness to the left remains unchanged. The general condition of the patient is excellent.

The following is the record of the daily quantity of urine passed:—July 9th, 13 oz. (digitalis commenced); 10th, 10 (?) oz.; 11th, 22 oz.; 12th, 24 oz. (calomel, 5 grs.); 13th, 20 oz.; 14th, 52 oz.; 15th, 63 oz.; 16th, 54 oz.; 17th, 78 oz.; 18th, 88 oz.; 19th, 110 oz.; 20th, 70 oz. (digitalis stopped); 21st, 70 oz.; 22nd, 64 oz.; 23rd, 66 oz.; 26th, 55 oz.; 27th, 48 oz.

STROPHANTHUS AS A HEART TONIC AND DIURETIC.

BY WM. BUDD, M.D. BRUX., &c.

IT is notorious that there is no class of drugs so uncertain in their action as diuretics, and the physician is often perplexed and disappointed by the failure of one drug after another to increase the amount of fluid secreted by the kidney, and to relieve his waterlogged patient. Through the important researches, however, of Professor Fraser, we have a heart tonic and diuretic at our command which I think is likely to prove far more valuable in suitable cases than digitalis, caffeine, &c.; and it has the double advantage over digitalis that it is not cumulative. I trust that the record of the following two cases, in which the great benefit produced seemed to be the result of the administration of the drug in question, may not be without interest to the profession.

CASE 1. *Morbus cordis; emphysema; œdema pulmonum.*—H. B——, aged sixty-seven, came under my care on March 23rd. Has never had acute rheumatism. Has a mitral systolic bruit, most audible at the apex of the heart, hyper-resonance on percussion, generally over the chest, with prolonged expiratory murmur and minute crepitation at the bases of both lungs. The urine was slightly albuminous and very scanty, of specific gravity 1020, and no casts; pulse 92, feeble and irregular. The amount of urine secreted was scarcely eight ounces a day, and there was considerable anasarca. My treatment consisted in the administration of hydrogogue purgatives, such as compound jalap powder, and various diuretics, such as carbonate of potash, squills, digitalis, and blue pill, but without any marked increase in the amount of urine. At this time orthopnœa was very distressing, and the patient was obliged to sit upright in an armchair night after night. On April 26th the urine was so scanty that it could not be collected for measurement, and the anasarca was rapidly increasing, and the crepitation over the bases of the lungs had considerably extended. The patient's face was livid and extremities cold (pulse 100, feeble and irregular), and he was evidently in a critical condition. I then ordered five minims of tincture of strophanthus to be taken three times a day. On April 28th I was pleased to find the condition of my patient much improved, his pulse was considerably stronger and quite regular, and the quantity of urine began to increase, and amounted to thirty-five ounces in the twenty hours. There was also a marked amelioration in all his symptoms. I had the urine collected as detailed in the subjoined table:—

April	30th	... ...	35 oz.	May	16th	... ...	80 oz.
May	1st	... ...	46 „	„	17th	... ...	84 „
„	2nd	... ...	52 „	„	18th	... ...	80 „
„	3rd	... ...	64 „	„	19th	... ...	76 „
„	4th	... ...	65 „	„	20th	... ...	80 „
„	5th	... ...	85 „	„	21st	... ...	80 „
„	6th	... ...	99 „	„	22nd	... ...	74 „
„	7th	... ...	95 „	„	23rd	... ...	76 „
„	8th	... ...	106 „	„	24th	... ...	78 „
„	9th	... ...	105 „	„	25th	... ...	90 „
„	10th	... ...	104 „	„	26th	... ...	90 „
„	11th	... ...	104 „	„	27th	... ...	80 „
„	12th	... ...	105 „	„	28th	... ...	65 „
„	13th	... ...	100 „	„	29th	... ...	75 „
„	14th	... ...	83 „	„	30th	... ...	75 „
„	15th	... ...	85 „	„	31st	... ...	72 „

On May 18th I noted that the œdema had disappeared to a great extent, and that of the lungs had entirely cleared up, air passing freely into the lungs. On the 22nd I gave the strophanthus twice daily only, and thirty grains of compound jalap powder every other night. On May 30th it was noted that the anasarca had absolutely disappeared. On June 16th the patient was free from dropsy and from œdema of lungs, and expressed himself as feeling very well.

CASE 2. *Morbus cordis; albuminuria; ascitis; anasarca.*—F. W——, aged forty-one, married and the mother of five children, came under my care on March 12th. There was a loud systolic bruit at the apex of the heart, the impulse of which was very much increased; the pulse was very small, and both irregular and intermittent. The liver was also considerably enlarged, extending two inches below the margin of the ribs, and there was a certain amount of ascitic fluid in the peritoneal cavity. Urine contained one-third albumen; specific gravity 1015. I could detect no casts under the microscope. She stated that considerable œdema of the legs had existed for many weeks. I ordered her tartrate of iron, with squill and digitalis, and also to drink lemonade made with acid tartrate of potash, and compound jalap powder every other night. The urine was very scanty, and very little improvement took place. On March 23rd I ordered five minims of tincture of strophanthus three times a day, and continued the compound jalap powder every other night. On March 25th the pulse was stronger and more regular; the urine by measure was found to be 16 oz., and increased in amount daily, as will be seen below.

March	26th	... ...	20 oz.	April	10th	... ...	68 oz.
„	27th	... ...	20 „	„	11th	... ...	80 „
„	28th	... ...	30 „	„	12th	... ...	56 „
„	29th	... ...	35 „	„	13th	... ...	48 „
„	30th	... ...	40 „	„	14th	... ...	45 „
„	31st	... ...	56 „	„	15th	... ...	48 „
April	1st	... ...	55 „	„	16th	... ...	46 „
„	2nd	... ...	58 „	„	17th	... ...	49 „
„	3rd	... ...	56 „	„	18th	... ...	50 „
„	4th	... ...	60 „	„	19th	... ...	54 „
„	5th	... ...	72 „	„	20th	... ...	50 „
„	6th	... ...	78 „	„	21st	... ...	42 „
„	7th	... ...	65 „	„	22nd	... ...	36 „
„	8th	... ...	76 „	„	23rd	... ...	42 „
„	9th	... ...	65 „				

On April 14th I noted that there was only a trace of albumen present, and also that the œdema of the legs was much reduced, as was also the amount of ascitis. On April 30th she was quite free from either œdema or ascitis, and she expressed herself as feeling as well as she had been for years.

Remarks.—I think these two cases show the undoubted beneficial effect of strophanthus after the failure of digitalis, &c. Its great advantages over the latter drug are that no cumulative effect was observed even after it had been given for several weeks continuously, nor was there any gastro-intestinal disturbance, which is so frequently produced by digitalis; and in disturbances of the circulation, when the blood-pressure is low, strophanthus is capable of producing a marked diuretic effect.

Exeter.

ON A CASE OF EMPYEMA.

BY ANDREW DUNLOP, M.D.,

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ON the evening of March 3rd, 1886, I was called to see A. B——, male, aged seventeen. I found him suffering from pain in the right mammary region; he had cough, and he was spitting up somewhat tenacious mucus coloured nearly throughout with bright-red blood. There were no definite physical signs, the temperature was 102°, the appetite was poor, and the bowels were regular. The history given was that while in the enjoyment of good health he was exposed to cold on the night of March 1st, and that he began to suffer from malaise next day. On the morning of the 3rd he had distinct rigors and began to suffer from pain in the right side. During the day he seemed to get worse, and I was sent for. On the 4th signs of pneumonia began to show themselves at the right base, and next day they were fully

developed, along with some indications of pleuritic effusion. During the first ten days of his illness the morning temperature ranged between 100° and 102°, and that of the evening between 102·4° and 103·8°. The pulse was good, its rate never being above 108. The respiration sometimes reached 60, but the patient was never distressed with dyspnœa. There was almost constant, and sometimes severe, pain in the right side, and there were profuse perspirations. At first the pneumonic symptoms and signs predominated, but soon they began to subside, and those of the pleuritic effusion gradually occupied the first place in importance. On the 12th the temperature fell to normal, and by this time nearly all blood had disappeared from the expectoration, and there was much less pain in the side. The effusion, however, had increased, and there was now absolute dulness all over the back, except, perhaps, in the supra-spinous fossa, and in front the dulness reached as high as the upper border of the fourth rib when the patient sat up. After this, everything went well for a time. The temperature kept normal, the respirations gradually fell from 36 to 34, the pulse kept at about 96, and there were indications of commencing reabsorption of the fluid. The patient began to sit up a little every day, he had little cough, his breathing was easy, and he felt that he was gradually improving. On the 22nd, however, he began to complain of severe pain on the right side, and his temperature rose again. Between this date and the end of the month the effusion gradually increased, until there was complete dulness all over the right side, except under the clavicle, where there was a well-marked tympanitic note. A similar note was produced all along the right border of the sternum, extending about an inch outwards. The temperature kept about 101°, and the pain in the right mammary region was severe, but the respiration did not rise above 34, and there was almost no dyspnœa. During the first week of April the right pleural cavity became completely filled, the liver was depressed, and the patient suffered from piles. The heart was pushed to the left, and the right side measured about an inch more than the left. The temperature, however, sank to normal, and the respirations were only from 25 to 30. On April 8th I aspirated in the fifth space, a little behind the mammary line, but I could only succeed in withdrawing about half an ounce of fluid, the aspirator getting constantly blocked with shreds of flocculent matter. The fluid withdrawn, however, was pus, of a bright-yellow colour, and free from odour. On the 10th I aspirated again, this time in the fourth space, just in front of the anterior axillary line, and withdrew about twenty ounces of inodorous pus. Dr. le Rossignol, who saw the patient with me, agreed that the best course would now be to wait for a few days and watch the effect of the aspiration; then, if the pus reaccumulated rapidly, to diminish it by a second aspiration, and a day or two later to make a free incision. After the aspiration there was a somewhat tympanitic percussion note all over the front, with good respiration in the subclavian region; behind, the chest was dull all over, with only a little faint respiration audible. The temperature was normal (after this it never rose, except once, to 99·5°), the pulse was 120, and the respiration 24. By the 15th the chest had filled up again to a considerable extent, there being dulness in front as high as the upper border of the third rib. It was noticed about this time that the finger tips, which had been gradually enlarging, had become very distinctly clubbed. On the 16th an attempt was made to aspirate, but owing to the blocking of the tube very little was drawn off. On the 19th, with the kind assistance of Dr. le Rossignol and Mr. Hind, chloroform was administered, and an incision was made between the sixth and seventh ribs, beginning just behind the anterior axillary line, and extending forward for about a little more than two inches. A free opening was made into the pleural cavity, and two fingers were passed into it to stem the torrent of pus, which escaped in large quantity. Antiseptic precautions were taken, but no spray was used. After the pus had ceased to flow freely, an indiarubber drainage tube, about three inches long and pretty nearly half an inch in diameter, was passed into the chest. This tube was attached to a broad indiarubber chest piece, under which was placed a piece of protective, and under this again, next the wound, a piece of lint soaked in carbolic oil. Over the whole was placed a thick pad of salicylic wool, which was kept in position by means of a broad binder. The dressing was changed in the evening, the tube being taken out, washed, and replaced. The wool was found saturated with pus. By the 23rd the discharge had diminished very greatly. At first, at each change of dressing, night and morning, the wool was found saturated with pus, but now there was only about two or three ounces. Each time the dressing was changed the tube was taken out and thoroughly cleansed. Latterly a fold or two of carbolic gauze had been placed over the chest piece and orifice of the tube, as the wool was found to block it and to get into the wound. I had also begun to change the dressing under carbolic spray. The temperature had never risen since the operation, and the patient was comfortable. In the course of another week there was little discharge except when the patient sat up, and then there was a free rush, sometimes apparently amounting to about a pint. This gradually lessened, and towards the middle of May, when he had begun to sit up a little each day, there was only an ounce or so of discharge when he first got out of bed. The dressing was now only changed once a day, and the tube had been more than once replaced by a shorter one of lesser diameter. He ate well and gained flesh rapidly, and the digital clubbing began to diminish. The chest wall on the affected side had fallen in a good deal, the sinking being especially marked under the clavicle, and the liver had risen quite up to, if not above, the level of the incision. The percussion note was good, though rather tympanitic in quality all over the front; it was fair down the back to the base, where it was dull, and there was a dome-shaped area of dulness in the lower axillary region. Somewhat weak respiration was heard all over the front; still weaker breathing was heard over the upper two-thirds behind; but the breath sounds were quite inaudible over the dull areas at the base and in the infra-axillary region. At the beginning of June there was only a spot or two of pus on the dressings, with a little watery discharge; sometimes the wool was quite clean. The breathing was now better heard, and the patient was moving about a little. On June 5th the tube was removed, and the wound healed up completely almost at once. On July 18th I made the following note of his condition: "Has gained flesh considerably. Little digital clubbing. Considerable re-expansion of the right chest has taken place, but it is still contracted, especially under the clavicle; the right nipple is lower than the left. Under the nipples the right side measures about a quarter of an inch less than the left. The expansion on breathing is three-quarters of an inch on the right side and one inch on the left. The right side is resonant all over, the percussion note being a little tympanitic in front. Good breathing is heard all over the front, and somewhat weaker breathing over the upper three-fourths of the lung behind. The respiration is still weaker at the base, and is only faintly audible in the lower axillary region. The wound has evidently been long thoroughly healed. Very slight lateral curvature of the spine, the concavity to the right. In good health and can do a fair amount of exercise. He notices, however, that he perspires easily." On Nov. 2nd I saw him again, when the following note was made: "Has grown stout and strong. Little deformity of chest. Right side a quarter of an inch less than left; right nipple lower than left. The breathing heard over the front of the right side is equal to that on the left; it is weaker behind, and faint at the base and infra-axillary region. Chest movement good. Exceedingly little curvature of spine." I next examined him on May 23rd of this year. He was stout, and looked in excellent health. He told me that at some athletic sports, about a fortnight previously, he had won the 100 yards race, and came in second for the quarter of a mile. He says he feels perfectly strong and well. On looking at his chest, there was little to be noticed, except that the right nipple seemed a little lower than the left, and that the chest was perhaps somewhat flattened under the clavicle. Under the nipples the right side measured about one-eighth of an inch less than the left. The side moved freely, and the percussion note was good all over. The breathing was normal, except at the base behind, and over the axillary and infra-axillary region, where it was somewhat weak. The spine was quite straight, and there was hardly a remaining trace of digital clubbing.

Remarks.—The complete and fairly rapid recovery in this case is encournging. I suppose the comparatively early date at which the radical operation became obviously necessary, and was performed, largely contributed to the satisfactory result. It might, I think, have been performed still earlier, with the advantage of saving about a fortnight of the acute part of the illness. There has been a great variety of opinion with regard to the site of the incision and the after treatment of these cases. The recommendations of Dr. Douglas

Powell seem to me to be the most judicious that have come under my notice. The common sense view of the matter is to have the opening as low down as is consistent with safety and the comfort of the patient, and to make and keep it sufficiently free to ensure the complete emptying of the cavity. It is also necessary to take care that all air entering the cavity shall be as aseptic as possible. Of course the lowest point in the chest, whether the patient is lying or standing, would be found in the posterior wall; but an opening there involves cutting through the large muscles of the back, a procedure which might cause trouble at the time, and possibly inconvenience to the patient afterwards. I should recommend the incision to be made in the infra-axillary region as low down as is found to be safe, and as far back as is possible without exposing the larger muscles. It should be remembered how often the last traces of pleuritic effusion are found in this situation. In the present case I had intended to make the incision further back, but for some reason—I forget what—which presented itself at the time of the operation, I made it in the position described. No injections were used. They did not seem to be necessary, and it is well to avoid the *nimia diligentia*. The blocking of the aspirator gave annoyance on two occasions. This I found to be largely due to the small bore of the ends of the piece of glass tubing inserted in the indiarubber pipe. These openings on examination were seen to be less than the diameter of the cannula of the trocar I used, Potain's largest.

Jersey.

ON THE RADICAL CURE OF HYDROCELE.

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ASSISTANT SURGEON TO THE MANCHESTER ROYAL INFIRMARY, AND SURGEON TO THE CLINICAL HOSPITAL FOR WOMEN AND CHILDREN.

THE radical cure of hydrocele at the present day is usually carried out in one of the following ways—viz., by injection, by antiseptic incision, or by excision of the tunica vaginalis.

The last of these three methods—viz., that by excision of the parietal portion of the tunica vaginalis, first introduced by von Bergmann, and described by Bramann[1]—is a plan of treatment which, so far as I am aware, has not hitherto been much adopted in this country. The operation is a simple one, and in four cases in which I have adopted it has been attended by the most satisfactory results. Bull of New York,[2] who has employed the same method in three cases, regards it as "the only truly radical operation," and speaks very highly of it. It may be performed in the following manner, which, except in a few minor details, is identical with that of von Bergmann. The cavity of the tunica vaginalis is laid freely open by a vertical incision between two and three inches in length, made over the most prominent part of the swelling; the fluid will at once escape, and, as it does so, it is useful to secure the margins of the opening in the tunica vaginalis on each side with a pair of catch forceps, otherwise there may be a little trouble in distinguishing them after the evacuation of the fluid, and the walls of the sac have collapsed and fallen together. The tunica vaginalis is then dissected out on either side up to the point where it is reflected upon the epididymis, testis, and cord, by putting it on the stretch and separating it from its connexions with the surrounding parts by means of the finger, assisted by a scalpel or pair of scissors. It is astonishing how little hæmorrhage accompanies the proceeding if the finger is chiefly used. In my last case not a single vessel had to be secured. The whole of the tunica vaginalis is then removed, with the exception of the portion covering the epididymis, testis, and cord, by cutting through it close to those structures with scissors. All bleeding points having been secured, a drainage tube is brought out through the upper part of the wound and a counter opening made at the most dependent point of the scrotum. The interior of the wound, which will have contracted very considerably, is dusted over with iodoform, closed with a few sutures, and dressed with iodoform gauze and a wood-wool pad, care being taken that the scrotum is afterwards kept in an elevated position. Healing rapidly takes place, the slight swelling which follows the operation soon subsides, and the patient will usually be able to leave his bed and get about in the course of a week or ten days, as shown by the cases mentioned below. Though applicable to all cases of hydrocele, this method is especially valuable in those of long standing, where the tunica vaginalis has become much thickened and of dense consistence. As compared with the other plans of radical cure, the excision method has this advantage—viz., that it is almost practically impossible for a recurrence of the hydrocele to take place.

In the method by injection with iodine or carbolic acid (the latter fluid being now generally used), a recurrence takes place in a certain proportion of cases. Of three cases, which I have recently treated in this way, the hydrocele returned in one (see Case 3). It may be alleged against the excision method, as compared with the injection treatment, that it is more severe, and necessitates confinement to bed; but even in cases of injection the inflammatory symptoms are often so marked that the patient is unable to get about for several days. In the three cases which I injected with carbolic acid, the patients remained in hospital respectively for nine, twelve, and fourteen days after the injection before the swelling and other symptoms had sufficiently subsided to enable them to resume their ordinary occupation.

The excision method is, I think, much superior to Volkmann's plan of simply incising freely the cavity of the tunica vaginalis. The process of repair in the former is much more certain, for, if an attempt is made to obtain direct union of the opposed serous surfaces after incision, there is always a possibility of non-obliteration of a portion of the cavity of the tunica vaginalis and a liability to recurrence of the hydrocele. If, on the other hand, as commonly happens, the cavity is obliterated by a process of granulation and suppuration, healing is quite as slow as, if not more so than, in cases where the serous membrane is removed. In a case treated by incision under my care some time ago (see Case 4) the wound had not healed at the end of four months, a troublesome sinus remaining, which had to be freely laid open and scraped before it could finally be made to close. If, after excision, uniform pressure is made upon the scrotum by the dressings, so as to maintain the opposed surfaces of the deep parts of the wound in contact with one another, healing will rapidly take place, often almost without any suppuration, just as is frequently seen after removal of the testis. In the course of a few months it will be found that the scar of the operation has almost disappeared; the scrotal tissues move freely over the surface of the testis, and it requires a careful examination to detect that any operation has been performed upon the part.

Of the following cases three were treated by injection, two by incision, and four by excision of the tunica vaginalis: in each instance except one the hydrocele was of the common variety.

CASE 1. *Injection with carbolic acid; cure.*—Aged forty-four years; tapped once previously.—Jan. 13th, 1887: All fluid drawn off and one drachm of equal parts of glycerine and carbolic acid injected and left in the cavity of the tunica vaginalis; scrotum tender and swollen for about a week. On the twelfth day the swelling of the scrotum had subsided, but the testis was slightly enlarged and tender on pressure. Left for the convalescent hospital at Cheadle.

CASE 2. *Injection with carbolic acid; cure.*—Aged forty-seven years. Tapped three times previously.—Feb. 2nd, 1887: Injected as in previous case, followed by considerable effusion into tunica vaginalis. As this did not become absorbed, the swelling was tapped on the tenth day, and four ounces of turbid, port-wine-coloured fluid drawn off. No further effusion took place, and the patient left the hospital four days later.

CASE 3. *Injection with carbolic acid; recurrence.*—Aged forty years. Tapped seven times previously.—Feb. 6th, 1887: Injected as in preceding cases, followed by very slight effusion. Left hospital on the ninth day, swelling having quite subsided. A month later the patient returned with a recurrence of the hydrocele, which was treated by excision of the tunica vaginalis. (See Case 7.)

CASE 4. *Antiseptic incision; sinus for four months; cure.*—Aged thirty-seven years. Tapped once previously. On Aug. 26th, 1885, a free opening under the carbolic spray was made into the cavity of the tunica vaginalis, the edges of which were stitched to the skin, the wound being plugged lightly with iodoform gauze. The cavity contracted, but did not close, a deep sinus remaining, from which there was an abundant discharge of pus. On Dec. 17th the sinus was laid

[1] Berliner Klin. Wooh., April 6th, 1885, p. 209.
[2] New York Medical Journal, March 13th, 1886.

open and scraped, and in the course of a few weeks it gradually healed.

CASE 5. *Antiseptic incision; cure.*—Aged nine years. Hydrocele of the cord. Tapped several times previously, and injected once with iodine. On Aug. 24th, 1882, antiseptic incision. On the thirteenth day the patient left the hospital, the wound having almost healed.

CASE 6. *Excision of tunica vaginalis; cure.*—Aged forty-seven years. Tapped four times previously. On June 30th, 1886, the parietal portion of the tunica vaginalis was removed in the way described. On the tenth day the wound was almost healed, and the patient left for the convalescent hospital at Cheadle.

CASE 7. *Excision of tunica vaginalis; cure.*—Aged forty years. Tapped seven times previously, and injected once with carbolic acid (see Case 3). On April 5th, 1887, operation; fifth day, tube removed; ninth day, wound healed; fourteenth day, left hospital for Cheadle.

CASE 8. *Excision of tunica vaginalis; cure.*—Aged fifty-three years. Tapped three times previously. On May 23rd, 1887, operation; second day, tube removed; fifteenth day, wound healed; eighteenth day, left hospital for Cheadle.

CASE 9. *Excision of tunica vaginalis; cure.*—Aged thirty-eight years. Tapped three times previously. On July 5th, 1887, operation; sixth day, tube removed; ninth day, wound healed; fifteenth day, left the hospital.

Manchester.

DR. R. KOCH'S BACTERIOLOGICAL WATER TEST.

BY G. BISCHOF, F.C.S., F.I.C.

No. III.[1]

EXTENSION OF TIME OF CULTURE.

ONE of the sources of error in Dr. Koch's method of water testing by gelatine-peptone is due to the interference, mainly, of the liquefying colonies with the culture of other colonies present. The former do not only, as a rule, more or less monopolise the area of the nutritive medium, thus preventing the free development of other colonies, but they are the principal obstacle necessitating the limitation of cultures to mostly three days, which leaves us in ignorance of what would have taken place thereafter. For these reasons it appeared to me that the usefulness of bacteriological water testing would be increased if means could be found to extend the time of culture by limiting the extension of objectionable colonies. A primary condition of success in that direction is that the samples of water and the gelatine should be mixed uniformly with the greatest possible care. The encroachment by objectionable colonies may be prevented through their destruction by heat, or by the application of antiseptics. Heat—say the introduction into the colonies of a platinum wire made red hot by electricity—might answer, but there would be too great a danger of the liquid spurting out and infecting the surrounding parts.

Experiments were on this account made with a variety of liquids, commencing with a cold saturated solution of mercuric chloride, which was introduced by means of a fine capillary tube in connexion with a small vessel containing a supply of the antiseptic reagent. Notwithstanding the employment of a magnifying glass in the examination of the plates, the difficulty then arose that after a time it was almost impossible to find out whether a colony was new or had already been treated. The solution of mercuric chloride was therefore mixed with a like volume of cold concentrated cupric sulphate, the colonies treated being thus stained and readily recognised. Several glass plates with nutritive gelatine and some samples of water having been placed in the usual way each into a damp chamber, the liquid mixture could be introduced to any part of the plates by tilting the upper dish at the place nearest to some colony. When several colonies close to each other have to be treated, the dish is supported, whilst introducing the liquid, by a glass rod properly shaped for the purpose, in order to reduce the tilting of the cover and consequent change of air within to a minimum. If the atmosphere of the laboratory is somewhat impure, it is advisable to avoid the tilting entirely, and to introduce instead the sterilising medium through a small hole bored in the upper dish near its top, closing the opening at other times by a stopper. In view of the observation made by me some time ago,[2] that culture in darkness mostly results in a reduction of the number of colonies, it may be stated that in all experiments bearing upon the extension of time of culture the samples were freely exposed to light, so as to have the most favourable conditions for the development of colonies. In four cultures of a sample of water the following numbers of liquefying colonies were observed on each plate treated with the mixed liquid:—

	Plates.				
	No. 1.	No. 2.	No. 3.	No. 4.	Average.
After 2 days	3	1	2	4	2·50
„ 3 days	0	1	3	1	1·25
„ 4 days	9	13	18	13	13·25
„ 5 days	15	7	14	14	12·50
Total	27	22	37	32	29·50

This experiment shows at once that if culture, as hitherto usual, had been interrupted after three days, a small portion only of the liquefying, and, it may be added, of all microphytes present, would have developed colonies, and that it is a mistake to suppose that the colonies capable of growing in gelatine-peptone are obtained by three days' culture. On the sixth day the experiment was interrupted, as the blue tinge almost throughout the gelatine showed that the cupric sulphate, as probably also the mercuric chloride, had spread to such an extent that there was great danger of the free development of colonies being prevented by these substances.

Only one more liquid experimented with may be mentioned—viz., a strong solution of methyl blue in absolute alcohol. Contrary to expectation, this gave a very unsatisfactory result, liquefaction being to all appearance even increased by the treatment. The explanation of this probably is that the very small quantity of the liquid, which can be added without overflow, was so diluted by the surrounding liquid that it ceased to act as an antiseptic, serving, on the contrary, as food.

After this and other similar experience a number of solid media were tried. They were in each case finely pulverised, but without being reduced to dust. Several, as coke and animal charcoal of various origin, failed to attain the object, or even accelerated liquefaction; and only two, crystallised potassic permanganate and spongy iron, were found to answer. The former offers the obvious advantage of being readily soluble. Very little of it is required to completely sterilise a liquefying colony of moderate size, and, supposing a sufficiency of the material, it is not necessary to be very particular to spread it all over the liquefied spot. After a short time it will be dissolved and disseminate throughout the colony, which henceforth ceases to increase. The permanganate does not spread at all beyond the colony, and I frequently noticed the formation of different new colonies bordering on a sterilised one. This also refers to spongy iron, which, however, mostly forms a ring slightly tinged by some ferric compound around the colony. It is difficult to understand the action of that material, as the alkalinity of the liquefied gelatine almost excludes any slight solubility of ferrous compounds such as in ordinary water. As very little only of the sterilising medium can be applied, spongy iron was selected which had been reduced by water gas, this being the purest and richest in metallic iron. Either of the solid media is introduced by means of a kind of pipette. A small bulb is blown at one end of a glass tube about the size of a quill, and a small perforation made in the side of the bulb. To the other end of the glass tube a short piece of tubing about two or three times wider is fused, and a glass stopper ground into the open end. The perfectly dry material being filled in, the pipette is closed by the stopper, then, in the case of permanganate, held vertically, the bulb at the top, so that the material recedes into the enlarged portion. The fine tube is passed in the usual way through the flame of a burner, after which the pipette is inverted so that the material fills the fine tube and bulb and is quickly introduced between the dishes. The opening in the bulb being turned downwards over a colony, the granules are spread on to it in any quantity desired, if necessary by gently tapping

[1] No. II. appeared in THE LANCET, April 9th, 1887.

[2] Journ. Soc. Chem. Ind., March, 1886.

against the dish. Spongy iron is not affected by any reasonable degree of heat, and the bulb and tube may in its case be sterilised whilst filled with the material, which should be introduced into the centre of the colony so as to form a small cone reaching slightly beyond the colony. If the colonies are not large, the cone remains dry, and one treatment is sufficient, at least for nine days, which is the maximum of time hitherto experimented on, but on the least sign of failure the application must be repeated.

In the first experiment in which permanganate was made use of as steriliser, culture was successfully extended to nine days, when 1230 total and 28 liquefying colonies were found per cubic centimetre, the corresponding plate, on which spongy iron was used, giving 880 total and 36 liquefying colonies. In regulating the quantity of water for an experiment, too many colonies on a plate should be avoided. I have had from 20 to 25 liquefying colonies, but that is about the maximum which can be conveniently treated. Penicillium and other similar colonies sometimes give almost as much trouble as liquefying colonies, but they may be sterilised preferably by permanganate, which in their case must be spread carefully over the entire colony. On the whole, permanganate seems preferable on account of its ready solubility, but, as far as my experience goes, spongy iron may be used should there be a reason to render permanganate undesirable. With a moderate number of colonies to be sterilised on a plate, one inspection, and, if necessary, treatment every twenty-four hours is sufficient, the first inspection being generally required after a sample has been cultured for forty-eight hours. Blank experiments were made, which proved that these manipulations do not with due care introduce any serious risk of infection of the gelatine; also that the several materials experimented with are not themselves productive of colonies when placed on the sterile nutritive medium. It is obvious that by the extension of culture the objection that many organisms require more than three days to form colonies, and thus escape notice, is, to some extent at least, removed.

Various opinions have been expressed as to how the merely numerical result of cultures should be interpreted. It has been asserted that the numbers of colonies found allow of a direct conclusion as to the quality of samples of water; so that, for instance, a sample in which 100 colonies per cubic centimetre have been found might be considered very good. Others maintain that a comparative construction only is permissible, inasmuch as the colonies in a sample of water are compared with those in the same sample after it has received a certain treatment—say, by filtration through sand; and that the improvement or deterioration thus effected is in a certain ratio to the number of colonies in both. I have on various occasions expressed doubt as to both these views, as some of the conclusions to which they lead are at variance with established bacteriological facts.[3] At any rate, it seems clear that what we must aim at is a distinction between harmless and hurtful microphytes in water—in fact, rather a qualitative than a quantitative test; and the standard of quality of water should be the absence or presence of pathogenic organisms. Extension of culture having demonstrated that after three days a small proportion only of the microphytes present is revealed, it seems impossible ever to decide after three days' culture that no hurtful microphytes are present in a sample. In the experiments hitherto made, culture after nine days mostly shows a very marked increase of colonies up to fifteen times, as compared with culture for three days. Even after nine days colonies continue to make their appearance, and there is no doubt that the number of organisms capable of growing in gelatine-peptone, which are obtained after nine days, might still be increased. Moreover, the longer culture is continued, the more developed are the colonies, and the more they exhibit characteristic distinctions. Interesting colonies may be protected against the invasion of others by being surrounded, say, by permanganate, and they may thus frequently be cultured on the original plate without the necessity of making pure cultures on another plate. This probably can be utilised, not only in testing water, but in pathological research generally. The utility of the extension of culture will be illustrated by reference to a practical case—that is, to an experiment made on a London water before and after filtration through sand.

On the 16th of last July a number of samples were taken both from the river Thames at Hampton and the supply of the Grand Junction Company from their standpipe at the Marble Arch, which gave the following results per cubic centimetre:—

A. *Tested at once after collection.*

I. After 3 days' culture:			
Thames	2465 tot. col. ...	218 liq. col.	Total reduc.
Grand Junc. ...	47 „ ...	0 „	98 per cent.
II. After 9 days' culture:			
Thames	3523 tot. col. ...	769 liq. col.	Total reduc.
Grand Junc. ...	202 „ ...	33 „	97·6 per cent.

B. *Tested after 10 days' storage.*

I. After 3 days' culture:			
Thames	5908 tot. col. ...	56 liq. col.	Total reduc.
Grand Junc. ...	2701 „ ...	19 „	54·3 per cent.
II. After 9 days' culture:			
Thames	45486 tot. col. ...	406 liq. col.	Total reduc.
Grand Junc. ...	39754 „ ...	123 „	12·6 per cent.

The figures show that after three days' culture and ten of storage the total colonies in the sample of Thames water were increased by 140 per cent. against 5647 per cent. in the Grand Junction Company's water. The liquefying colonies in Thames water decreased under these conditions by 74 per cent., whilst those in the Grand Junction Company's water increased by 1900 per cent. The total colonies in the latter water had thus increased about 40 times more than those in Thames water. After nine days' culture and ten of storage the increase of total colonies in Thames water was 434 per cent., in Grand Junction water 19,500 per cent. The liquefying colonies in Thames water had then decreased by 47 per cent., those in the Grand Junction sample increased 273 per cent. The total colonies in the Grand Junction water had therefore in this case increased 45 times more than those in Thames water. We shall presently have to attempt an explanation of these singular differences.

The reduction shown by the filtration of Thames water under the several conditions is: In the sample tested at once after being collected, the reduction was after three days' culture 98 per cent., and after nine days' culture 97·6 per cent., the reduction of the liquefying colonies being 100 and 95·7 per cent. respectively. After storage of the samples for ten days, the reduction of total colonies was diminished after three days' culture to 54·3 per cent., and after nine days' culture to 12·6 per cent., the reduction of the liquefying colonies being 66 and 69 per cent. respectively. The flasks used for storing the samples were provided with glass and asbestos stoppers, and not opened until the water was mixed with gelatine-peptone.

Remarkable is the difference in the effect of extended culture on the sample mixed with the nutritive medium at once after collection, and the other mixed after ten days' storage. In the case of the former there was no practical difference in the reduction after three and nine days, whilst after the storage the reduction of total colonies after nine days' culture is shown to be almost 80 per cent. less than after three days. This seems to show that, given the conditions under which life can be freely developed—that is, when the organisms are surrounded by their natural element, water,—the filtered sample deteriorates so much more than the unfiltered, that, upon the showing of the gelatine test, any gain, apparent or real, by the filtration, is in a comparatively short time apt to disappear almost entirely. This would be not unlike the patching up of cracks and fissures in a building with plaster and paint; it looks all right for a time, but soon matters are as bad as ever. There is in this no condemnation of sand filtration, which unquestionably improves river water very materially, but a condemnation of the sensational percentage reduction hitherto shown by the gelatine test.

But is it reasonable to expose samples of water to the conditions which led to the reduction in the filtered sample of only 12·6 per cent. of total colonies? There can be no doubt on one point—viz., if the test is made to yield by extended culture a much larger portion of the organisms actually present in water than by culture for a shorter time, the larger figure obtained is the more reliable, because it must approach more closely the true condition of things. More hesitation will be felt regarding storage for some days before the water and gelatine-peptone are mixed. It certainly may be argued that samples without storage represent the condition in which water is delivered by the company—that is, at their standpipe, and not in the consumer's dwelling. Keep your cistern as clean as practicable, and you probably will never find the 98 per cent. reduction. Thus I tested lately the water from the cistern

[3] Proc. Inst. Civ. Eng., vol. lxxxv., Part 3. THE LANCET, April 9th, 1887.

in my laboratory, which is very fairly clean, and through which an unusually large quantity of water passes mostly day and night. Allowing a few days for a corresponding sample of water from Hampton to reach the cistern the result was an indicated total reduction of 36 per cent. It therefore seems justifiable, as long as water is supplied by the intervention of cisterns in which storage takes place, to compare samples of unfiltered and filtered water after a reasonable storage, thus imitating the conditions under which the latter is consumed. Even then the conditions of our experiment are too favourable, because in cisterns water is exposed to aerial and other contamination, which is excluded in the sample flasks. We need not maintain that 12·6 per cent. is the correct figure, but there is no reason to give any greater claim to 98 per cent. The figures hitherto generally given might pass unnoticed, had not hints been thrown out at various times that they are to be regarded as the standard by which water companies should arrange their filters. This may lead to serious expense to them without benefit to consumers, and real beneficial progress may thus be prevented. Even were a fallacy detected in these conclusions, it is quite out of the question to place reliance on numerical results of bacteriological testing, unless the time of culture for each sample be stated.

Before concluding, I wish to guard against the inference that I accepted any one of the figures in the table to be a true exponent of the reduction effected in Thames water by the filtration through sand. It is well known that a not inconsiderable proportion of the metropolitan supply is derived from other sources besides the rivers; and had the sample of unfiltered water which was tested been a true average sample of the company's supply, the reduction would in all probability, *cæteris paribus*, have appeared less favourable. False security is a condition which before all things should be guarded against as much as possible in sanitary matters.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

SYMPTOMS OF IRRITANT POISONING IN A FAMILY, DUE TO DISEASED BREAD.

BY J. CHALMERS ROBERTSON, M.B.

ON Thursday, July 9th, 1887, I was called to the house of a Mr. T——. On arrival, I found a family consisting of Mr. T——, aged forty; five children, ages varying from eight to eighteen, and a niece aged eighteen, all suffering from symptoms of irritant poisoning. Their illness had commenced almost simultaneously in the early evening of Tuesday, July 7th, with violent sickness, followed by profuse diarrhœa. They were seen twice by their usual medical attendant, who was on the point of starting for his holiday, and who requested me to take up the case.

I found Mr. T—— complaining of great pain about the epigastrium, and he seemed unable to retain anything; he had had considerable diarrhœa, but this had now ceased. The eldest son, aged eighteen, had had slight pain and diarrhœa, but scarcely noticeable. The third son had great diarrhœa; the fourth the same, but with considerable sickness. The elder daughter had sickness only; the younger was somewhat sick, but the pain and diarrhœa in this latter case were very severe, and were only with difficulty subdued. The niece had diarrhœa only. The mother (Mrs. T——), the second son, and an infant in arms escaped entirely.

It seemed clear that here was a family poisoned, and the question was, what was the cause? I at once inquired as to whether any tinned food had been eaten, but there had been none. I then made inquiry as to exactly what had been eaten during the previous Monday and Tuesday, but there was nothing which seemed to account for the symptoms. On further examination, however, as to what was eaten for breakfast on Tuesday (the morning of the day when the illness began), my attention was directed to a loaf of bread which Mr. T—— said he thought at the time "had a funny taste." The eldest son had said he did not like that bread, and ate only a small piece. The second son had none whatever, neither had Mrs. T——, nor, of course, the infant. All these facts were elicited only on careful cross-examination, as the family had not had the slightest suspicion of the loaf in question being the cause of their troubles. There was now something of which to lay hold. Every member of the family who had partaken of that loaf in ordinary quantity had been rendered ill; one member who had merely eaten a small piece felt uncomfortable; those who did not eat any remained well. Fortunately a piece of the loaf remained, the small top part of a cottage loaf. I was struck by the amount of mould upon it, although it was only five days old, and had been kept in a bread-pan in a perfectly dry cupboard, the weather at the time being, moreover, very hot. My friend, Mr. George Brownen, F.C.S., very kindly undertook the examination of this piece of bread, and in his report he said: "I can find no mineral irritant, or poison as arsenic, antimony, or zinc, and the proportion of alumina will not (by its excess) indicate alum. The sample of bread is, however, acidulous and mouldy, and this fermentation and fungoid infection has penetrated deeply, but irregularly, the substance of the loaf, and its microscopic characters are circles of green mould (mucor); capsular filaments of aspergillus (A. primigenius), feathery patches of penicillia, abundance of spores, but no insect organisms or maggots."

Parkes, in his Manual of Practical Hygiene, sixth edition, article Bread, says that "flour may be grown and fermenting, or with fungi forming. The fermenting flour produces dyspepsia and diarrhœa; the heat and moisture of the stomach, no doubt, excite at once very rapid fermentation; the glutin, already metamorphosing, acts very energetically on the starch and CO_2 is rapidly developed; hence uncomfortable feelings, flatulence, imperfect digestion, and diarrhœa." Further on, speaking of flour, originally good, but altering either from age or from not having been well dried, Parkes says: "The bread is often acid and sometimes highly so" (it was in the case under consideration). "This may produce diarrhœa, though such bread has sometimes been used for a long time without this effect; usually persons will not eat much of it. If the bread be too moist, fungi form."

Now, whether the flour was originally bad, or whether it underwent some alteration afterwards, I am unable to say, but there seems no reasonable doubt that the disease in the loaf was the cause of the illness with which I had to deal. It is quite possible that we have in undetected diseased bread an important factor in the causation of diarrhœa, and one which we would not readily suspect, and I shall be glad if abler pens than mine will take up a matter so closely related to the welfare of the community.

Wandsworth Common, S.W.

DISLOCATION BACKWARDS OF THE CARPUS AND HAND.

BY CHARLES R. WALKER, M.D.

THE following description of a case of this rare form of displacement, which occurred a few weeks ago, seems worthy of record.

Alfred C——, aged sixteen years, a grocer's apprentice, while pulling towards him with his right hand a heavy cask suddenly slipped backwards, his elbow (right) coming in contact with another cask behind him. A fellow-workman, who came to his assistance, finding the arm powerless and distorted, brought him immediately to me. The great amount of deformity was very striking. The hand was bent a little backwards, but was not abducted, and the fingers were flexed. Anteriorly, and a little below the wrist joint, was a large prominence continuous with the bones of the forearm. This consisted of the lower ends of the radius and ulna, which could be very distinctly felt. The styloid processes, conspicuously projecting, were entire, and preserved exactly their relative position. Posteriorly and a little above the wrist was another prominence which was formed by the carpal bones, the upper row exhibiting a well-marked arch under the tense skin. Crepitus was absent, as also any other sign of fracture. Reduction was easily effected, the bone surfaces gliding into apposition with a distinct jerk. He could now, though with some pain, move his wrist in all directions, and when the arm was extremely pronated he was able to supinate it. His general health seemed to be good, and there did not appear

to be any abnormal laxity of the joints generally. The limb was kept on a splint and evaporating lotions applied, and in a fortnight's time he was able to do light work, the wrist being still somewhat weak.

Remarks.—The mechanism of dislocation seems to have been as follows:—When the boy stumbled, his grasp of the moving cask tightened, and in endeavouring to recover himself the whole weight of his body was exerted on his right arm, so putting the ligaments of the wrist joint on the stretch. Almost immediately the movement of the arm backwards was arrested by the elbow sharply striking the other cask behind. The hand being fixed and bent backwards, the radius and ulna were thus easily jerked out of place. It was remarkable how easily the different bony parts involved could be recognised almost as if one were examining the bare skeleton. Moreover, the dislocation was quite uncomplicated, for the wrist was frequently and carefully examined by myself and others, but no thickening of bone or other sign of fracture in any part could at any time be detected. The peculiar and unusual deformity, the straightness of the hand, the relative position of the styloid processes, which were entire, the arch of the carpal bones, the absence of crepitus, and the ability to supinate fully after complete pronation, were sufficient aids to diagnosis from other injuries at the wrist joint.

Leytonstone.

COCAINE EXTERNALLY AND INTERNALLY.

By G. WALTER STERVES, M.D., &c.

THE value of cocaine as a local anæsthetic is now well established, and few who have carefully tested its use, either by the simple application of a solution to the skin or mucous membrane or by hypodermic injection, will be sceptical as to its efficacy. During the past two years I have used it pretty largely in general practice, and the interest attaching to the extent and variety of its applicability, both in medicine and surgery, induces me to add this note.

Externally I have found cocaine useful in neuralgiæ, two obstinate cases of sciatica yielding under its application; in operating on cysts and small tumours, such as ordinary sebaceous and Meibomian cysts; a fibro-cellular tumour, about two inches in diameter, was removed from the gluteal region of an old lady without the slightest pain; in pruritus ani; in stitching two cases of ruptured perineum, where the laceration was considerable; in opening abscesses in various parts; in coccydynia; in two cases of chronic articular rheumatism, where the excessive nocturnal pain resisted ordinary treatment. As an ointment I am finding its application of great assistance in the treatment of an obstinate case of vaginismus.

Internally I believe the drug to have special efficacy in certain cases of gastralgia. In two instances, one of which was accompanied by intense gastric irritability (all food and liquid being immediately vomited), the exhibition of the drug was followed by almost immediate relief. Other treatment by morphia, belladonna, &c., had been previously tried, with no beneficial results. One of the above cases was that of a hysterical young lady under my care about a year ago, who, in addition to excessive gastric pain and epigastric tenderness, suffered from a general condition of hyperæsthesia. A notice of this patient is particularly interesting, as she had been under my observation for ten days with no improvement whatever, but after the cocaine had been administered for twenty-four hours the pain was subdued, and remained so. She has not had an attack since, although previously to this similar seizures had been periodical, especially on the approach of menstruation.

The above heterogeneous collection at least illustrates some of the uses to which cocaine may be applied by the general practitioner, and possibly may suggest others. In a recent issue of THE LANCET (August 6th) there is mentioned the case of a young woman lately under Dr. Frey of Békés, in which a general condition of hyperæsthesia was associated with intense irritability of stomach and constant vomiting, where cocaine promptly relieved all alarming symptoms. We may fairly hope that as such cases of severe functional and "sympathetic" stomach derangement are so benefited, some of the distressing symptoms which so frequently accompany internal organic disease may also be alleviated by its use; so far, however, I have seen no mention of its exhibition in the latter class of cases. Its antiseptic influence might also be in its favour. Internally I have prescribed the hydrochlorate (dissolved in water) in quarter-grain doses every four hours, or oftener when the gastric pain was excessive. For external application the solutions have varied from 4 to 10 per cent. in strength.

Liverpool.

TWO MIDWIFERY CASES.

By J. H. BATTYE, M.D.

DURING the week ending August 20th I met with two remarkable cases in midwifery which I desire to place on record, as both are to me unique. One has a bearing on Dr. Oliver's "Notes on Sterility," which recently appeared in THE LANCET, and the other is remarkable for its prolonged first stage.

On August 18th, 1887, after twenty-four years and five months of married life with her present and only husband, at the age of *forty-five* I delivered a tradesman's wife of her first-born child, a male, at full term, the labour being perfectly natural and lasting twenty-eight hours from the first pains till the expulsion of the placenta. The patient is rather stout and has enjoyed very good health, and she did not suffer during gestation. There was not the usual morning sickness or any constitutional disturbance to show pregnancy; and when I first saw her on May 23rd she came to me fearing an unnatural growth, and I did not discover that she was pregnant, as in consequence of the thickness of the abdominal walls I could not feel the uterus properly; but when I next saw her, on July 13th, a great deal of the adipose tissue had disappeared, and I had no difficulty in making out the uterus and feeling the movements of the child. Before labour came on I must admit I felt somewhat anxious about her on account of her age, and because it was to me a unique case; however, my anxiety proved quite needless, as she is able to suckle her child, which is strong and vigorous, and both up to the present time have progressed as well as anyone could wish.

As a contrast to the above case with regard to duration of labour in primiparæ, another case, occurring the same week and completed the same day, gave me a record of the longest first stage of labour I have yet met with. This occurred in a coachman's wife, aged thirty, to whom I was called at 11 P.M. on Tuesday, Aug. 16th, pains having commenced at 10 A.M. On examination the os uteri would admit only the tip of the finger, so I gave her a dose of opium (tincture of opium, 15 min.) to enable her to get some sleep, and left her. In spite of the dose of opium, she had little sleep because of the pains; and on calling at 9 A.M. on Aug. 17th and examining, although the pains were good, I found the os very little dilated compared with the previous evening, not the size of a threepenny piece. At 4.30 P.M., being in the neighbourhood, I called again and found the os dilated to the size of a sixpence, not rigid, but soft, and the pains good, every ten minutes. At 11 P.M. I was called away to the case previously related, which occurred some five miles distant from this; and on my return on Thursday afternoon at 5.20 P.M., I found the os only the size of a shilling, although up till noon on the 18th (Thursday) the pains had continued every ten minutes. After noon till an hour before my return they had not been so frequent, but they occurred then at intervals of every five minutes while I was present, and yet there appeared no rigidity of the os. Having been in labour so long, I determined upon fetching Barnes's dilating bags, but before doing so I pushed up the head a little, letting down some liquor amnii, and now for the first time I felt the bulging of the membranes. On my return with Barnes's bags at 6 P.M. I found the os dilated beyond the largest size, and at 7.30 P.M. I ruptured the membranes, as the os was completely dilated. I had, however, to complete delivery by forceps at 9 P.M. in consequence of the exhaustion of the patient.

My explanation of this prolonged first stage of labour is this:—The patient had had a remarkably sick gestation, having vomited during labour till 9 A.M. on the 18th; that by the act of vomiting the child, which presented in the first cranial position, had been driven down so low in the pelvis that the liquor amnii could not get past the head until I pushed it back at 5.20 P.M. on the 18th, when for the first time I could make sure that the membranes were entire. According to the times I have given, it will be seen that the duration of the first stage was fifty-seven hours and a half. The patient has since made uninterrupted progress towards recovery.

Denbigh-street, S.W.

CASE OF FATAL POISONING BY NITRIC ACID.

BY WILLIAM MILLIGAN, L.R.C.P.ED., M.R.C.S.

As fatal poisoning by nitric acid is not very common, it is well, perhaps, to place on record such cases as occur.

On Sunday morning, March 26th, at 10 A.M., I was called to see a married woman, aged thirty. I found her in a condition of mental derangement, which appears to have come on very rapidly, as the night before she was assisting in her husband's shop as cashier, and although her manner seemed a little strange and unusual, no particular attention was directed to it. I took her to her room, fastened the windows, removed razors, &c., and gave strict injunctions to the husband that she was not to be left without an attendant. At 6 P.M., seeing that she was sleeping quietly, her sister left her for a few minutes, when she got out of bed, ran down a passage into a back bedroom, and then swallowed some nitric acid from a bottle, and regained her bed before her friends, who heard the noise, could reach her. I found her completely collapsed, body and extremities cold, pulse frequent, irregular, and very small. Frothy mucus oozed from the lips, and occasionally there was violent retching, but very little was evacuated. The lips and gums were chalky white, and on the chin there was a yellow stain; the tongue was covered with pale yellowish coating. The condition of collapse lasted for four hours, during which we were assiduous in applying hot bottles, &c., and ether was injected subcutaneously several times. I then gave an enema of hot spirit and water with two eggs, and in half an hour there was return to consciousness, and the patient made signs expressive of intense pain in the chest and abdomen. Hypodermic injections of morphia gave great relief. Another small nutrient enema was given about 5 A.M., and at nine the general condition was much improved. At 12 o'clock, eighteen hours after taking the poison, the patient suddenly expired. Unfortunately the coroner considered the cause of death so evident that he would not order a post-mortem examination. On inquiry from the chemist, I find he sold half an ounce of nitric acid to a lodger in the house for the purpose of removing corns. This quantity appears to be the smallest fatally poisonous dose in an adult I can find recorded.

South Tottenham.

SUCCESSFUL TREATMENT OF PRURITUS VULVÆ.

BY FRANCIS TAYLOR SIMSON, L.R.C.P. LOND., &c.

MRS. X——, an elderly lady, wife of a wealthy merchant, consulted me some time back complaining of great irritation of the vulva and perineum. She was suffering from diabetes, but although under treatment the specific gravity of her urine decreased from 1049 to 1026, yet the pruritus increased in severity. In spite of all that could be suggested by myself and many of the best London consultants, life became almost unbearable. Directly she became warm in bed the irritation would commence. She would scratch herself "almost to pieces," and would frequently leave her bed half-a-dozen times during the night to sit in a bath of cold water. She tried alkaline baths, hydrocyanic acid, black wash, chloroform liniment, &c., without avail. On July 28th she came up from the country to see me, although she felt it might be in vain. I then gave her the following ointment:—Cocain., 15 gr.; aquæ dest., q.s.; lanolin., ½ oz.; to be used every night, and lotio hydrargyri nigra to be applied in the morning after bathing. Since she used this ointment the irritation gradually decreased, until it entirely left her, and long and healthy sleep returning has made life again worth the living.

Lavender-hill, S.W.

THE BOARDING-OUT OF PAUPER CHILDREN.—The Elham (Folkestone) Board of Guardians, on the 2nd inst., had under their consideration the question of the boarding-out of pauper children. The matter had been under consideration for some time past, the object of the guardians being to bring up children under such a system as should free them from the vice and contamination of life in a workhouse. It was decided to expend £2500 in the erection of three cottage homes in the village of Cherston, a few miles from the workhouse, on the principle of Dr. Barnardo's homes.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

AN UNUSUAL CASE OF SCIRRHUS OF THE BREAST; REMARKS.

(Under the care of Mr. FREDERICK TREVES.)

THE form of growth taken by the carcinoma in the case here recorded is, as Mr. Treves remarks, very unusual. The ordinary variety of scirrhus is so well known that the deviation from the typical case is seen on perusal of the account of this one, whilst the remarks appended bring the special points more clearly forward.

A woman aged thirty-seven was admitted in November, 1886, with a remarkable form of scirrhus of the breast. She was emaciated and cachectic-looking, and profoundly anæmic. The mammæ were very small. The whole of the pectoral region of the chest was studded with a multitude of small rounded nodules, that stood out like shot under the skin. The centre of the right mamma was occupied by a very hard mass, about the size of a hen's egg, composed of a series of dense round nodules loosely held together. Each separate globe was about the size of a marble, and the nodular character of the tumour was visible through the skin. The integument of the breast was of normal colour, and was adherent to the growth; the nipple was retracted, and the main part of the tumour was fixed to the pectoralis muscle. For a considerable distance round the mamma the subcutaneous tissue was occupied by widely disseminated nodules. The majority of these lay between the breast and the axilla; some extended as high up as the clavicle, others reached the middle line, while some were found scattered over the upper part of the abdomen. All these nodules were hard, round, and free; they slipped about like foreign bodies under the skin, and the integument over them was of normal aspect. The nodules varied in size from a small shot to a bean. The largest were near the heart, and the further the distance from the nipple the smaller the little bodies became. They amounted in number to over a hundred, and some thirty of these were the size of large peas. A peculiar nodular cord ran from the mamma into the axilla, where it was lost. The nodules themselves were roughly grouped along lines that radiated from the nipple. Large veins ran between the breast and the clavicle. There was a slight enlargement of the axillary glands, and also of those in the supra-clavicular region. The left breast was occupied by a precisely similar growth to that on the right side. It was smaller, but its nodular character was even more pronounced. It was free from the skin and the pectoral muscle. Around it were some sixty nodules of like character to those already described. They had not extended so far as those of the right side; none had reached the clavicle or the median line, and neither the armpit nor the abdomen. No enlarged glands could be felt in either the axilla or the supra-clavicular region. The affected regions were entirely free from pain and tenderness. The patient could only remember a slight occasional twinge in the right breast.

There was no history of cancer or tumour in any member of the patient's family, and she had had no injury to the breast. She had had ten children, all of whom are living. She had suckled each child except the last for a period not less than thirteen months. She had always had easy confinements, and had never had any trouble with the breast during lactation. The patient first noticed a small round nodule on her right breast ten months ago. The mass was close to the nipple, and was discovered by accident. She was at the time two months advanced in pregnancy with her last child, and was enjoying excellent health. The first nodule appeared in the left breast eight months ago. Fresh nodes appeared around the original ones, and, partly fusing with them, produced the principal tumours. Fresh crops of nodules, extending from the nipple area, had been appearing ever since. She was confined at full term; the labour was easy and the child is sound and vigorous. No change

occurred in the right breast after the confinement, but the left breast became swollen and tender; a little milk escaped, but disappeared in three days. She made no attempt to suckle the child. The disease has not spread more rapidly since the lying-in. For the last seven months the patient has failed in health. She has become wasted and weak. Six months ago a cough commenced, and this has persisted ever since. On admission, the patient was exceedingly feeble, and was much troubled with the cough. Her temperature was normal. On being informed that any operation was out of the question, the patient left the hospital after a few days' rest.

Remarks by Mr. TREVES.—The case is peculiar in many respects, and is, in my personal experience, unique. It is, in the first place, unusual for a scirrhus to appear during pregnancy, and still more unusual for it to involve both breasts under those circumstances. The growth appears to show in an exaggerated way the mode in which a scirrhus extends. It is well known that the extreme margin of the morbid growth shows under the microscope a disposition to form nodular masses and cords. All rapidly growing tissues that invade the lymphatics and the lymph spaces show the same tendency. An advance guard of nodules precedes the spread of lymphadenoma, and the spreading of lymphatic growths in the lung in tuberculosis is attended with the formation of nodular masses. In that form of cancer known as *cancer en cuirasse*, the skin around the mamma and far away on the chest becomes hard with the induration of cancer. The part becomes hide-bound, and the skin leathery. But I have not seen an example of this variety where a nodular disposition of the growth has been evident. It is not infrequent to find a noded cord leading from the breast to the axilla in a somewhat early stage of scirrhus of the ordinary form. I have met with an instance where the whole of the skin in the mammary region became infiltrated with cancer, apparently as a result of the very long continued poulticing of a scirrhous breast. The infiltration in this case was integumentary, and although it was not uniform, it hardly assumed a distinctly nodular character.

GENERAL HOSPITAL, BIRMINGHAM.

ANEURYSM OF THE SUPERFICIAL FEMORAL ARTERY IN HUNTER'S CANAL, PRECEDED BY ANEURYSM OF THE COMMON FEMORAL OF THE OPPOSITE LIMB, BOTH TREATED BY LIGATURE; REMARKS.

(Under the care of Mr. BARTLEET.)

FOR the following account we are indebted to Mr. Stephen Townesend, assistant house-surgeon.

J. C——, single, aged thirty-two, a tin-plate worker was admitted on May 10th, 1887, for a pulsating swelling on the anterior and inner aspect of the left thigh in the position of the upper part of Hunter's canal. For some weeks previously he had been subject to pricking pains in the region of the terminal branches of the long saphenous nerve, at the inner side of the foot and ankle, and to aching pains in the calf of the leg. He had noticed the pulsating swelling about ten days before coming to the hospital.

On admission, a swelling of the size and shape of a hen's egg was found at the point above named. It had distensile pulsation. The pulsation was controlled by pressure on the femoral artery.

The patient had never suffered from syphilis, had always been temperate, and had very rarely touched spirits. He had not been exposed to any great physical labour or any severe strain. He had an attack of acute rheumatism at fifteen, and again at twenty-one. In June, 1886, he had the external iliac artery tied by Mr. Bartleet for an aneurysm of the common femoral on the right side. Remembering the success of this operation, Mr. Bartleet determined to treat this second aneurysm (of 1887) by the ligature at once, without giving any other method a trial. Accordingly, on June 17th, he ligatured the superficial femoral about three inches below Poupart's ligament, making the incision, after his usual custom, from above downwards and outwards obliquely to the line of the artery. The vessel was tied with a single ligature of strong catgut. A small drainage tube was introduced. The operation was performed under the spray. The wound was completely healed by the third week after the operation, without the occurrence of any untoward symptom, general or local. The tumour at this period was firm, non-pulsating, and considerably reduced in size.

Remarks.—There are two or three points of interest in this case. First of all, the occurrence of aneurysm at all in an otherwise perfectly healthy young adult without any predisposing constitutional condition or local traumatic cause. Secondly, the appearance of another tumour soon after the first, and seated in the comparatively rare situation of Hunter's canal. The etiology of both aneurysms is obscure. The parents of the patient are both living and healthy. He distinctly denies ever having suffered from any venereal affection, nor does he present any signs of constitutional syphilis. His statement that he has been of abstemious habits is fully supported by his appearance. His occupation does not involve unusual physical labour, nor has he been exposed by accident to any severe strain. Many pathologists regard syphilis as by far the most common cause of aneurysm in the adult, but the occurrence of such a case as the above suggests that, as hæmophilia owes its origin to constitutional tendencies, so there may be a condition which may be termed an "aneurysmal diathesis," and, further, as syphilis is not altogether infrequent in the adult, that, in some cases at least, aneurysm and syphilis may be, not dependent, but merely synchronous conditions.

GLASGOW ROYAL INFIRMARY.

HERNIOTOMY; GANGRENE OF INTESTINE; RESECTION OF BOWEL; ENTEROBRAPHY; RECOVERY.

(Under the care of Dr. FLEMING.)

WE are indebted for the notes of the following case to Mr. G. G. Ferguson.

J. C——, aged forty-eight, fish hawker, was admitted on April 27th, 1887, with large strangulated hernia. He stated that he had had hernia for twelve years, which, in spite of the intermittent use of various forms of truss, frequently came down. He always succeeded in returning it, although often with great difficulty and after many hours, during which he had severe pain and vomiting, until November 24th last (five months' ago), when Dr. Knox operated for strangulation and stitched the pillars of the ring together. He did not wear any truss, and the bowel remained up until April 22nd.

On admission, herniotomy was at once performed by Dr. Fleming, and, as the bowel was found gangrenous, it was laid open and slightly stitched to the external wound. The man did very well after the operation, the temperature never rising above 99°. A month afterwards it was noted that he was distinctly emaciating and was in low spirits, although naturally a very cheery man; he was also suffering extremely from the irritation of the fæces continually pouring out of the artificial anus, this irritation even preventing him from sleeping. In consultation it was decided to attempt resection and stitching of the bowel. The operation being fixed for Wednesday, June 1st, on the preceding Sunday he was put upon the most solid and dry diet possible; next morning he had a dose of castor oil, and as soon as it had acted freely he was confined to milk diet, and a grain of solid opium given by the mouth every three hours.

Operation.—Under chloroform, a thick ligature was first tied round the projecting end of the bowel, the ends being left long. By this means any further discharge of fæcal matter was prevented, and a distinct advantage gained in the subsequent manipulation of the bowel. An incision was made through the skin round the projecting end of the bowel and about a quarter of an inch from it, and was prolonged upwards. By putting the bowel on the stretch by means of the ligature already applied, it was easily dissected free and a portion pulled down with the mesentery. By following this the lower end of the bowel was found, and Bishop's clamp applied, one limb to each end of the bowel, leaving about an inch inside the clamps. About half an inch of this was cut off with scissors, and the incisions carried in a converging direction until they met about two inches up in the mesentery. There was thus removed a nearly equivalent triangle of mesentery, each side of which measured about three inches, along with about half an inch of bowel attached to the angles of the lower side. The freshly cut edges were then brought together by the approximation of the limbs of the clamp. The muscular and serous coats being distinctly retracted, it was easy to bring the mucous coat into accurate apposition by a large number of fine interrupted sutures of carbolised silk, the knots being in the lumen of the bowel. The last stitch or two had of course to be tied outside, but

the knots were easily pushed inside with the eye end of the needle. The peritoneal and muscular coats were then brought together by a series of Lembert's sutures, also of carbolised silk, very closely introduced. The edges of the mesenteric wound were stitched in a similar way by numerous Lembert's sutures, first on one surface and then on the other. The clamps having been removed, the places where the bowel had been compressed by it were carefully watched, until in a few seconds they ceased to be distinguishable. The bowels became immediately distended with gas, and some pressure had to be used to return it to the abdomen, during which it was proved that the joint was air-tight. The pillars were brought together, and the wound dressed with alembroth gauze.

The patient was kept under opium for five days, and fed entirely on peptonised milk. On June 8th his bowels were freely moved by an enema, and after a few days and one or two more enemata acted regularly and spontaneously. The temperature never rose above 100·4°, and this was due to intercurrent facial abscess from carious teeth. On July 16th he was dismissed well, having been kept in the hospital more than a week. A truss was ordered him to support the abdominal wall, which had been weakened by the incisions of the various operations.

ANTRIM COUNTY INFIRMARY, LISBURN.

CASE OF CEREBRAL ABSCESS FOLLOWING WOUND OF THE SCALP; TREPHINING; DEATH; REMARKS.

(Under the care of Mr. ST. GEORGE.)

N. B——, aged eighteen, a farm servant, was admitted about 11.30 P.M. on June 9th, 1887, suffering from a severe contused wound of the scalp, extending for about three inches over the right frontal eminence. The history of the injury was that while playing with some other lads at a game of throwing stones he was accidentally struck on the temple. He was stunned, but not made completely insensible. After the accident he walked into Lisburn, a distance of three miles.

On admission it was found that the patient had lost a good deal of blood, but otherwise he did not complain. The upper part of the wound was filled with a large firm clot. The wound was brought together lightly with three catgut carbolised sutures, and dressed with iodoform, without disturbing the clot.

June 10th.—Ordered a pill consisting of five grains each of blue pill and extract of rhubarb, with a seidlitz powder the following morning.

16th.—The patient complained of headache, and vomited for the first time. He had up to this gone on very well. Ordered five grains of calomel and saline draught every three hours, with ice to the scalp.

18th.—The vomiting had ceased, but the temperature had gone up to 100°. Ordered five minims of tincture of aconite with each saline draught every three hours, and to be purged again with the pills as on June 10th.

19th.—The pills and seidlitz powder not having acted, he was ordered a draught of white mixture.

20th.—Temperature 102° and the mental faculties stupid, but he is sensible and answers questions when roused. No vomiting. Ordered six grains of quinine every six hours. To continue the saline mixture and aconite.

26th.—Seems a good deal better. Temperature fallen to normal. The quinine and aconite were omitted, and he was ordered twenty minims of solution of perchloride of iron three times a day with infusion of cinchona. On examining the wound with a probe, rough bone was found at the upper angle; rest of wound healthy.

29th.—Very stupid. Lies chiefly on the right side. Conscious, but will not speak unless roused. Very thirsty. Temperature 100°. To omit iron solution, and repeat saline mixture and pills.

July 2nd.—No improvement. Complains still of headache, but lies quietly on the right side. Conscious if spoken to. Pulse 40; respiration 15; temperature 99°. To repeat the pill and omit the saline mixture. Ordered five grains of iodide of potassium, with half an ounce of infusion of cinchona, every four hours.

5th.—No improvement. Pulse 34; respiration 15; temperature 97°. Ordered half an ounce of whisky every four hours. Pupils slightly dilated; respond feebly to light. Conscious when roused. Complains of his head.

This state went on until the morning of July 8th, when he began to show signs of paralysis of the left leg and arm, and in the afternoon of the left side of his face. The pupils were dilated, and he would not speak. Mr. St. George therefore, as a last resource, trephined over the upper angle of the wound, where the periosteum was stripped off from the bone. On removing the disc of bone the dura mater bulged forwards and was incised freely. A little pus and a good deal of venous blood resulted. A drainage tube was introduced, and the whole lightly dressed with carbolised gauze. The patient was removed to bed about 10 P.M. He rallied well from the chloroform, moved his left leg and arm, put out his tongue when desired, and also swallowed whisky and milk. When spoken to he said he felt better. However, he slowly sank, and died on the following morning at 6 o'clock.

Mr. St. George made an examination of the body in the afternoon of July 9th, about ten hours after death. The head only was examined. The periosteum was very easily stripped from the bones in the neighbourhood of the wound, and there was a slight congestion of the vessels of the right parietal bone just posterior to where the trephined portion of bone had been removed. On removing the skull-cap the vessels of the dura mater were found to be greatly congested, and the dura mater itself was slightly adherent at the site of injury. There was no fracture on the internal surface of the parietal bone, and a little posterior to the trephined portion there was an abraded portion, and round this the dura mater was attached. At the point where the portion of bone had been removed was found the opening of an abscess, extending under the dura mater and into the brain substance. The abscess was as large as a hen's egg, and also opened upon the skull at the abraded portion.

Remarks by Mr. ST. GEORGE.—The great difficulties in the diagnosis of intra-cranial abscesses were in this case heightened by the slow progress of the symptoms, paralysis not appearing until the very last day, when the abscess had reached such a size as to be hopeless. Still the satisfactory results, the improvement in the patient's state by the removal of the pressure, such as the disappearance of the paralysis, the recovery of consciousness, &c., would lead me in future to trephine early, and make free drainage, if possible, of the abscess, as the best and only chance of saving what otherwise is a hopeless case.

Reviews and Notices of Books.

Pulmonary Consumption, its Etiology, Pathology, and Treatment. By C. J. B. WILLIAMS, M.D., LL.D., F.R.S., and CHARLES THEODORE WILLIAMS, M.A., M.D. Second Edition. Enlarged and rewritten by Dr. C. THEODORE WILLIAMS. London: Longmans, Green, and Co. 1887.

THIS, although stated to be a second edition, is to all intents and purposes a new work. No better evidence of the extent to which the bacillary doctrine has revolutionised our conception of phthisis could have been afforded than the contrast presented by the theories contained in the original work, published in 1871, and this. Seldom in the history of medicine has a greater change been seen in the current conceptions of a disease. Then the influence of humoral pathology had not died out, in spite of the cell doctrines which had gained so much acceptance; for, if we do not err, the theory advanced by the authors was in favour of a dyscrasia, a blood condition, and the formation of tubercle from blood products. But apart from their views, the influence of German pathology had largely overridden the original conceptions of Laennec, and phthisis was subdivided into varieties, mainly referable to inflammatory changes, to which tubercle was superimposed as a secondary phenomenon or accident, the result of infection through caseous material. The notion of infectiveness was initiated, then, long before a determined search was made for a special virus, and when this was discovered the pendulum swung back almost to the standpoint of Laennec—viz., that no phthisis could occur without tubercle, or, *mutatis mutandis*, without the bacillus. Dr. C. T. Williams has from the first recognised the bearings of the new discovery, and is as thorough in

his adoption of it as M. Sée. He has rewritten his work from this new standpoint, for in almost every page the influence of the bacillary doctrine makes itself felt. Nor is his acceptance of the doctrine at all hampered by doubts as to the origin of the bacillus or its mode of entrance into the body, for although he is forced to admit that predisposing causes play a great part, it is plain that he does not consider they are always necessary. It is, moreover, most interesting to observe how this new interpretation of the pathogeny of consumption fits in with the facts long known from clinical observation, and we may be grateful to Dr. Williams for having taken so decided a step towards proving the harmony which exists between old-established facts and new theories.

As to the matter of the book, it is on the whole well arranged and concisely stated. There are deficiencies—as, for instance, in the chapters on Morbid Anatomy, which are not so full as they might be in the detail which has accumulated in past years, and which the Brompton Hospital has done so much to furnish. But we observe with pleasure that Dr. Ewart's instructive study of the formation of cavities in phthisis receives full attention, and his doctrine of secondary infection of the opposite lung is freely adopted. Considerable space is allotted to the bacillus tuberculosis, and the history of the investigations that led up to its discovery is retold, whilst its clinical importance is is duly appraised. It will, we think, be seen that this is not so high as might be thought, but some instructive cases are given where diagnosis was aided by the detection of the bacillus in the sputum. In the chapter on Etiology the question of inheritance is discussed from the records of 1000 cases treated in private practice, which showed 48·4 per cent. with a family history of consumption, and only 12 per cent. of direct hereditary transmission. Hardly sufficient stress, perhaps, is laid upon the environment of the patients that show inherited taint, and, although not explicitly stated, it would seem that Dr. Williams thinks that a direct transmission of the virus is possible. Amongst possible predisposing causes, the influence of damp, of certain trades, of alcoholism, and of syphilis is directly mentioned; but less attention is given to the evil influence of sedentary town life and unhealthy surroundings, which have so large a share in producing the tendency to the disease or in laying the subject open to the bacillary invasion. The following summary of conclusions upon the question of infection will bear quoting (p. 88):—

"1. The evidence of large institutions for the treatment of consumption, as the Brompton Hospital, directly negatives any idea of consumption being a distinctly infective disease, like a zymotic fever.

"2. Phthisis is not, in the ordinary sense of the word, an infectious disease—the opportunities for contagion being most numerous, while the examples of its action are exceedingly rare; nevertheless, its communicability is possible under extremely favourable circumstances.

"3. In the rare instances of contagion through inhalation, the conditions appear to have been—(1) close intimacy with the patient, such as sleeping in the same bed or room; (2) activity of the tubercular process, either in the way of tuberculosis or of excavation; (3) neglect of proper ventilation of the room.

"4. In addition to the above, a husband may, though he rarely does so, infect his wife by coition; and this risk is considerably increased in the event of pregnancy.

"5. Infection through the milk of a tubercular cow, in cases where the udder is affected, is possible.

"6. By the adoption of proper hygienic measures, such as more ventilation and separation of consumptive from healthy people at night, and by proper care being exercised about the selection of cows for the milk supply, all danger of infection can easily be obviated."

These conclusions are perhaps such as are warranted by present knowledge, but we venture to think that time will require their modification in more than one particular.

Before describing in detail the several varieties of consumption, the authors contribute chapters on the clinical symptoms of consumption in general, including one chapter—all too brief—by the veteran stethoscopist, Dr. C. J. B. Williams, on the physical signs; and on certain special phenomena, as hæmoptysis, temperature, diarrhœa, albuminuria, and pneumothorax. The chapter on Temperature in Phthisis is one of the best studies of clinical thermometry that we possess; and it contains a series of observations which have been for the first time made in a sufficiently large number of cases and on a systematic plan with praiseworthy care and elaboration. The average curves resulting from these observations, which were carried on for several years at the Brompton Hospital, are most instructive; and of particular interest is the fact that, in spite of pyrexia, there is in a very considerable proportion of cases a gain in weight attributable to feeding, which more than counterbalances the wasting influence of pyrexia. The thermometric curve is described as being the balance between the two factors of increased metabolism and of constitutional depression or lowered vitality; so that, according as one or other prevails, there are supernormal or subnormal temperatures. Another study nearly as elaborate is that on the albuminuria of phthisis, the pathology of which is mainly to be found in lardaceous disease evolved by the phthisical process. In the greater proportion of cases the kidneys were lardaceous, in others fatty. Diarrhœa is attributed (1) to dyspepsia (as in the first stage), (2) to tubercular ulceration, and (3) to lardaceous disease; and abundant clinical illustration is given of these three types. In the chapter on Pneumothorax the most interesting fact is the record of four cases of recovery, with little or no effusion, which were observed many years ago, and are well worthy of preserving in view of the recent interest in the subject. But, of course, in the majority of cases the supervention of pneumothorax (like the rupture of a pulmonary aneurysm into a cavity) is one of the final events, and is of the worst omen. It is only in those rare cases of "apparently healthy" individuals that one may venture to regard pneumothorax with equanimity. A description of the several clinical varieties of phthisis (in which we regret to see the retention of the term "scrofulous") occupies several chapters, but need not detain us; and an elaborate statistical analysis concludes the clinical part of the work with the Duration of Pulmonary Consumption.

But, after all, the study of the disease, pursued as it is here with so much care and elaboration, and illustrated by numerous cases from an unusually rich field of clinical experience, leads us up to one subject—that which is most important, and yet most difficult—namely, treatment. Some readers may turn first to these last chapters, to learn what is to be said by the latest authorities upon this question. Here, again, we find the predominant influence of the bacillary doctrine, all measures being directed either to destroy the parasite or to enable the organism to withstand its ravages. The measures directed to maintaining nutrition, the regulation of diet, the promotion of exercise, the residence in a suitable climate, the prescription of cod-liver oil and of digestive tonics,—these, and other means for improving the general health, are as much indicated on the bacillary hypothesis as on the older doctrines. It is needless to say that all these measures receive adequate notice, with many valuable hints upon dietary, clothing, and habitation. Dr. Williams's experience of the employment of compressed air baths as prophylactic, but not curative, is worthy of attention. A chapter is devoted to Climatic Treatment, which, although necessarily condensed, is nevertheless full of suggestion, and we gladly welcome the extended list of conditions which contra-indicate the resort to mountain

climates, for these are often too much neglected. Dr. Williams says:—

"The cases where the mountain treatment is of greatest benefit are those of ordinary first-stage phthisis, where the physical signs do not amount to more than a few crepitations audible at one apex, with slight dulness and bronchophony, where the cough is not troublesome and the expectoration is scanty, though containing a few tubercle bacilli, and where loss of flesh and night sweats have continued for a few months." (Page 374.)

Similar appropriate reference is made to the suitability of the milder climatic resorts and to the value of sea voyages. As to medicinal treatment, naturally cod-liver oil receives the largest share of attention, and the value of stomachics is chiefly as an aid to the digestion of this fatty substance. Of antipyretics, the palm is given to the latest introduced—viz., antifebrin,—although exhaustion from the sweating it entails is a drawback. Under the head of Palliative Treatment are discussed measures for dealing with hæmoptysis, diarrhœa, pneumothorax, laryngeal ulceration, and other complications; whilst the final chapter deals with the Antiseptic or Bacillicidal Treatment (including intra-pulmonary injections and the drainage of cavities), from antiseptic inhalations to the gaseous rectal injections of Bergeon—methods which can hardly as yet be said to have advanced beyond the experimental stage.

We have thus cursorily passed through the pages of this work, and we may congratulate Dr. C. T. Williams upon its general excellence and the painstaking care with which he has brought the subject up to the level of modern ideas. It is a fair and faithful record of the outcome of personal observation and an extended acquaintance with the labours of others. The style in which it is written is sober and judicious. It may lack the vivacity that embellishes the writings of the French school, and in some parts we may miss the profundity of the German; but it nevertheless faithfully reflects the knowledge of the day, and may be profitably consulted by the medical practitioner, who has few diseases to deal with which more tax his judgment and his skill. We are, moreover, glad to meet once more, in the two chapters which he has contributed to the work, with the writing of one who more than a generation back led the van in the field of pulmonary pathology. We are reminded in the perusal of the work that, much as our conceptions of disease may alter, and valuable as may be the new facts discovered by new methods, nothing can change the import of facts accurately observed and carefully recorded, whereby our conclusions are rendered sounder and more complete, whilst our hypotheses are held in check.

On some of the Mental Affections of Childhood and Youth. Being the Lettsomian Lectures delivered before the Medical Society of London in 1887; together with other papers. By J. LANGDON DOWN, M.D. Lond., &c. London: J. and A. Churchill.

THIS valuable contribution to psychological literature is due to a request from the Medical Society of London that the lectures delivered there by Dr. Langdon Down should be republished. To these lectures are added certain "fugitive" papers, as the author calls them, printed in chronological order. The first impression created in the mind by this work, is that it takes its origin from the pen of one who writes, not because he wants to say something, but because he has something to say. When we are told that a period of nearly thirty years spent among children with various phases of mental affection might entitle the author to bring before the Medical Society material which could only be accumulated by few, we cannot do otherwise than anticipate hearing something in medicine which is at least original. And this expectation is fully realised.

Commencing with a sketch of the history of the education of the idiot, Dr. Down tells us that steps in this direction were at first isolated efforts under the guidance of M. Séguin at the Bicêtre, that in 1842 Dr. Guggenbuhl established a school at Abendberg in Switzerland, and about the same time M. Saegert at Berlin engaged in the instruction of idiotic deaf-mutes. In 1846 a school was established at Leipzig, and soon afterwards the subject was amply ventilated by Mrs. Plumbe, Dr. Andrew Reed, and Dr. Wilbur. In 1858 Earlswood Asylum first came into existence, and Dr. Langdon Down undertook the superintendence.

Now a word of criticism as to nomenclature. Dr. Down would apply the term "imbeciles" to subjects of senile changes of nutrition. He says: "I know of no defining limitation between so-called idiocy and so-called imbecility. The division, therefore, into imbeciles and idiots is thoroughly misleading. I have no great liking for the term 'idiot.' It is so frequently a name of reproach. The word 'idiot' means 'solitary.'" As far as we remember, Dr. Fletcher Beach equally condemns the word "idiot." He believes it to be an insult to call a person an idiot. In the first nomenclature of diseases of the Royal College of Physicians, published some twelve years back, a "high" idiot was to be called an imbecile, and a "low" idiot an idiot. The word "idiot" is derived from ἰδιώτης, a private person, meaning probably in ancient Greece or ancient Rome that an individual so-called ought to be kept in seclusion. Of course, the value of all the terms are very much changed since those classical distinctions were enunciated. Still, with all deference to Drs. Down and Beach—we must recognise the value of the terms "idiot" and "imbecile," as adopted in the first nomenclature of the College of Physicians, as, in the first place, bringing to the mind concisely the condition of the patient, and, as far as we can judge, being neither of them likely to offend the unfortunate persons to whom they are applied. Dr. Beach would call all idiots "imbeciles," and Dr. Down, with still more consideration, would call them all "feeble-minded"—that is, subjects of amentia,—while he would reserve the term "imbecile" for subjects of dementia, senile or otherwise.

But we turn with much pleasure to the author's original sub-divisions of idiocy. We have always conceived that the sub-divisions of Dr. Ireland, classical though they may be, are yet guilty of somewhat overlapping one another. Doubtless Dr. Down has studied Dr. Ireland's and M. Séguin's views on this subject. What, however, appears to us to be the chief merit of Dr. Down's work is that his sub-divisions, although appearing somewhat fanciful at first, are yet founded on principles of real practical importance with regard to prognosis. Briefly speaking, he makes two sub-divisions. Under the first, Ethnic, he includes Malay, North American Indian, Mongolian, and Caucasian. The last named, the Caucasian, is alone accidental—that is, produced by causes operating after birth. The other ethnic types are invariably congenital. And upon this point depends much in prognosis, at least as regards improvement. But as we proceed we find another classification, based on the etiology of the cases. And this, as the author says, is valuable from its practical bearing. This classification includes the forms congenital, accidental, and developmental. "Congenital" idiocy requires but little explanation. "Accidental" implies that some accident or some extension of disease equivalent to an accident had wrought on the cerebral centres disastrous changes, interfering with intellectual manifestations. On investigating, however, a large number of cases, Dr. Down became familiar with many instances which it was impossible to include in either of these categories. There was no history of accident or of any illness akin to accident. There was a cessation of the increasing intelligence which had marked the child's early career. Anxiety was felt on account of the deferred

speech; and this is frequently connected with second dentition. In the same category are those who, although they may have passed the first and second dentition harmlessly, break down at the time of puberty. The physical and mental phenomena in such patients are described at great length, and throw much light upon the similar cases which we all have to deal with, although displaying less marked symptoms.

Of course, in the work before us we meet with several collections of observations with which we are already familiar, but which we are grateful now to find engrossed in a permanent form for more convenient reference. Such are the causation of idiocy, the influence of alcohol in its production, of phthisis, of marriages of consanguinity, and the influence on the offspring of "over-education" in women. In this list may also be specially mentioned Dr. Down's previous papers on the condition of the mouth in idiocy, on the relation of the teeth and mouth to mental development, on the obstetrical aspects of idiocy, and various pathological communications which will bear comparison with those emanating from the researches of any sub-section of the Pathological Society. Dr. Down's book on idiocy is the most trustworthy work on this important and interesting subject.

New Inventions.

THE "SIMPLEX" MECHANICAL TELEPHONE.

THIS instrument is intended to be employed over short distances only, and is useful in warehouses, hotels, hospitals, and dwelling houses. No batteries are required for this telephone, and there is nothing in the instrument to get out of order or which requires replenishing. A single instrument acts as transmitter and receiver at each end, the two being connected by a tight steel wire which is conducted by special insulators. A great recommendation of this telephone is its moderate cost, which varies from 30*s.* to 60*s.* a set, according to circumstances. From personal experience we can testify to the simplicity and efficiency of the apparatus. The inventor and patentee is Mr. T. Harding Churton, of Park-square, Leeds.

DRAINAGE SCHEME IN THE LOWER THAMES VALLEY.

A CORRESPONDENT sends us the following account of the new system of sewage treatment which is in course of trial at Acton. There is much in the scheme which seems promising, but we are unable as yet to express a positive opinion in regard to it:—

"The Acton parish has soon followed the suit of some of the other local athorities along the Thames valley in providing for its district a system of sewage disposal, which enables it to pass into the river Thames a clarified effluent water, instead of polluting crude sewage. Acton would seem to have taken rather an enterprising step in this matter, by adopting a system of sewage purification which has not hitherto been in operation at any public sewage works. The system is that of the International Water and Sewage Purification Company, which differs in many salient points from the generally prevailing 'lime process' of sewage clarification. In this case no lime, indeed, is used. The principal substance in this new system is magnetic ferrous carbon—prepared from a rocky material hitherto considered useless—rich in ferrous alum and carbonised iron. In the process of precipitation this magnetic ferrous carbon is used in combination with what are termed 'compound sewage salts,' consisting of proportions of sulphate of alumina, sulphate of magnesia, and sulphate of calcium. The company, it seems, do not claim to have made a discovery of any new substance with startling properties. The operation and effects of the process are based upon well-known chemical principles, and it is in the mode of preparing and applying this substance to the purposes of water and sewage purification that the company think they have found something which goes a long way to solve the problem of treating sewage effectively and economically. It is found that by virtue of the soluble iron and alumina salts in this magnetic ferrous carbon it acts as a rapid precipitant, and, being carbonaceous and porous, that it also acts as a disinfectant and deodoriser. The complete process of clarification does not end in precipitation. In order to render the effluent water faultlessly pure, it is passed through a bed of magnetic spongy carbon and sand. At Acton it was noticed that the effluent water as it came direct from the precipitation tanks bore a reddish tinge, but chemical testing proved that this discolouration was due to the presence of iron, which would have a purifying effect than otherwise upon the river water. But the effluent water, after being passed through the bed of magnetic spongy carbon, appeared quite bright and clear. A telling demonstration of the purity of the filtered effluent was the fact that a number of gold-fish were swimming about gaily in a large globe filled with the filtered effluent. The sight proved a most interesting one to the many sanitary engineers present at the opening of the works on Thursday week last. A recent analysis showed that as much as 96 per cent. of putrescible organic matter in solution was removed, as also all suspended matter. It would seem that here is solved the question how to secure a pure effluent without the use of lime, and without the necessity of acquiring large areas of land for irrigation, or also without the pecuniary and sanitary risks attending a sewage farm. The filter-bed at Acton, where the scheme is to provide for the requirements of a population of 20,000, occupies an area of less than seventy feet square, magnetic spongy carbon being so efficacious that it can operate in a considerably less space than most of the filtering materials made from clay deposits or earthy substances carbonised. It is well known that the stratified structure of these latter substances interferes with their filtering powers, except in the direction of the lamina, and are therefore liable to silt up and become impervious to moisture. Another feature of the new process is the character of the resultant sludge. The liquid sludge passes from the precipitation tanks into a rotatory agitator, where more of the company's chemicals are added, for the purpose of producing practically a second precipitation, to further ensure the impossibility of putrefactive changes taking place in the solid sludge after being pressed. The company contend that by their treatment of the sludge the manurial qualities in it are fixed by the further addition of the magnetic ferrous carbon, and that if the same quantity of lime had been added, as is the case in the lime process, the manurial properties in the shape of ammonia would be driven off, and the phosphoric acid rendered insoluble and of no use to plant life. A ready demand is therefore expected for the sludge, which is to be sold as manure in powder."

ROYAL COLLEGE OF SURGEONS.—We extract the following from the *Builder* of the 20th ult.:—"Messrs. Higgs and Hill of South Lambeth, contractors, are carrying out the designs of Mr. S. Salter of Woburn-place, architect, for the addition of another floor, in two stages, to the front portion of the Royal College of Surgeons in Lincoln's-inn-fields. As it now stands, that building is mainly the work of Sir Charles Barry, who (1835–7) extended the front to 108 feet, and designed the massive Ionic portico. The original structure had been erected by Dance on the removal thither of the College from their Hall in Old Bailey—site of the now Sessions House and Criminal Courts—upon their incorporation in 1800. John Hunter's anatomical collection was opened to view here in 1813. In 1836 the Museum was enlarged, and again some years later, when the Fellows acquired possession of the ground in Portugal-street, at the rear, which had been the site of the Lincoln's-inn-fields Theatre or Duke's playhouse. About the middle of the eighteenth century the theatre was converted into a soldiers' barrack, and then into an auction-room. It was finally demolished in August, 1848, having latterly served for Spode and Copeland's china warehouse."

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 10, 1887.

OUR columns show that the Ninth International Medical Congress has been already duly opened, and doubtless by the time our impression of to-day reaches its destination will have become practically a matter of history. It is no light compliment to the profession of medicine that the President of the United States should have graced the initial stages of the Congress with his presence and co-operation, and that he should have been supported and followed in this by Mr. BAYARD (Secretary of State), who delivered an eloquent address, and expressed his belief that medicine constituted the noblest school of human usefulness. It is said that a thing well begun is half completed. And this may fairly be said of the International Congress. The details to hand of the addresses in the Sections do not enable us yet to estimate the scientific value of the Congress. We must wait patiently for fuller reports of the papers. But we learn that 5000 physicians were in attendance, and, as will be seen by our report by cable, there has been great range of subjects, and great cordiality of hospitality, crowned by an evening reception at the White House by President CLEVELAND and Mrs. CLEVELAND. The United States, regarded as a government, have hitherto been rather loose in their recognition of medicine as a profession. Each State has had its own regulations for the promotion and supervision of medical education and qualification, and the best Americans would be the first to admit that for the most part these regulations are very lax and inadequate, allowing of a great deal too many medical schools, and making medical qualification far too easy. It may reasonably be hoped that the President and his distinguished colleague will carry away from this International Congress deeper impressions of the grandeur of the medical calling, and of the responsibility of States for requiring that those who follow it shall give some substantial guarantees of general and medical education such as alone can fit them for coping intelligently with disease and guiding the public in medical questions, for acting, in the happy words of Secretary BAYARD, "as guardians of the nation's health." Mr. BAYARD would seem to have indicated that, in his opinion, the best thing that States could do for medicine as a science was not to interfere with it. This is not very complimentary to the State, which really has immense power, which it ought to use, for encouraging such a beneficent and important branch of knowledge as medicine. It must have struck him that all the members of the Congress and of similar Congresses were those who bear some mark of State recognition. Even the United States do not carry out their favourite doctrine of non-interference with the practice of medicine. Their medical schools and the recognition of some qualifications for practice, wherever and however obtained, are still matters of State regulation, however vague and various this is when we compare one State with another. A little reflection on the ubiquity of disease, and of the enormous suffering which it entails, will make it apparent to such men as the President of the United States and Mr. BAYARD that the efficiency of the medical art ought to be a chief concern of governments, and that, in the medical sense of the word, above all others *salus populi suprema lex*. Public medicine is now with us a most vital part of State responsibility, but ordinary curative medicine is no more to be neglected by wise governments than a good water supply or cheap supplies of sound food. In this sense the presence of such distinguished representatives of the nation in the Ninth International Congress is most gratifying to us, and will, we doubt not, be productive of good fruit.

The interesting address of the President, Dr. DAVIS of Chicago, will be found in another column. It would be vain to deny the disadvantage to the Congress caused by the death of the lamented Dr. FLINT, who was so ardent in the promotion of international amenities, and so open to the reception of light from all quarters as to cross the Atlantic almost annually, and to go, at an advanced age, to Copenhagen to arrange for this present Congress. It is gratifying that his name still figures honourably in the records of the Congress, and that his son, Dr. AUSTIN FLINT, read an able paper, from the physiological standpoint, on Fever: its Causes, Mechanism, and Rational Treatment. We await with interest further reports, and are gratified meantime at the auspicious opening of the Congress, and the association with it of the highest representatives of American influence and Government.

ADMIRABLE CRICHTONS, equally conversant with all departments of human thought and human work, are impossible in this age, and it therefore happens that various branches of science are, from year to year, represented on the presidential chair of the British Association. Last year we had for president an eminent geologist, and this year a distinguished chemist. Sir HENRY ROSCOE brought from the laboratory of BUNSEN, the birthplace of spectroscopic analysis and of so much else which has moulded modern science, a training in research which he has put to good account in England. We owe to him not only many good and useful discoveries, but an important impetus to chemical education and a more general recognition of its value. His election to Parliament was regarded with mixed feelings by chemists, who, while feeling proud that their science had found so able a representative, could not forget the risk that the new duties might involve an abandonment of the scientific work from which so much was hoped.

When the President is a chemist, we look for an address in which Chemistry and the cognate branches of science form the chief features, and generally for a review of the recent progress of the science. Upon Sir HENRY ROSCOE a further duty naturally fell, for in the jubilee year he could hardly avoid a history of the great scientific events of the last fifty years. No one living was better fitted for the task, for in the well-known treatise which he, in conjunction with Professor SCHORLEMMER, is giving to the world, an historical sketch has been prefixed to almost every chapter. Accordingly, we find in the presidential address a narrative which leaves but little to desire. It was unfortunate for Dr. SCHUNK the president of the Chemical

Section, that his address was necessarily preceded by one which could hardly fail to throw it into the shade. Dr. SCHUNK was indeed unfortunate in a double sense, for not only did he follow ROSCOE in this, but CROOKES in the last annual meeting. His address was interesting, but it was far below the standard set by Sir H. ROSCOE, and still less could it compare with the brilliant speculation or scientific poem in which Mr. CROOKES held his hearers spell-bound last year.

The President's address opened with a graceful tribute of respect to those two great Manchester worthies, DALTON and JOULE; the former even now remembered by a few, the latter still living in the highest honour among us. Each of them may fairly be described as the founder of an empire in science, although neither broke the first ground. The empires are those of matter and of energy. Many men not less illustrious aided in their conquest and final union, and a vast area still awaits discovery and annexation; but no one now doubts the reality of the past conquests, or their supreme importance to mankind. The idea of atoms has been supplemented by that of molecules, and all scientific men hold them, not as finalities, but as temporary expressions of the ever-growing truth. The hypotheses which now prevail, and which are at present essential to research, may, and perhaps will, take a very different form ere long, but we cannot doubt that in one form or other they will stand the verification of future discovery. JOULE'S greatest achievement was the experimental determination of the mechanical equivalent of heat, and the importance of this cannot easily be over-estimated. It led to the recognition of the doctrine of conservation of energy, which is entitled to precedence even over the great law of gravitation.

In the fifty years' survey with which the presidential address is mainly concerned we are presented first with the immortal labours of LIEBIG and WÖHLER. LIEBIG clung to "vital force," although he did more than anyone else to demolish it in its old acceptation. But his labours placed organic chemistry, and with it the chemistry of agriculture and physiology, upon a new basis. He erred, of course, and his tendency to sarcasm served to intensify his errors. He scoffed at substitution, ignored for the most part organic synthesis, and was persistently wrong in his conception of fermentation changes and the origin of muscular power. But in addition to the vast mass of fact which he, with his great colleague, collected, he revolutionised ultimate organic analysis, gave to chemistry the conception of the radical, and laid down lines of chemical classification which are still valuable aids in the science. Even the term "vital force" is only wrong if it be taken as implying creation of energy during the phenomena of life. Heat, electricity, gravitation, and chemism must still be reckoned as different forms of the force which causes energy, and we cannot as yet with any certainty identify the cause of nerve-energy with any one of them. As long as the secret of life is hidden from us we must be cautious, while admitting the great law of conservation, how we deny the possible existence of a force as different from electricity as electricity is from heat or gravitation. DALTON'S greatest work was done before the Victorian half-century, but it stretched into it, and its influence animated the whole. Among the most interesting passages in Sir HENRY ROSCOE'S address were those in which the modern calculations of the size and velocity of motion of atoms, or, more correctly, of molecules, were discussed. As to size, we are not indeed able to see them, but it does not seem quite impossible that one day we may. A microscope can magnify 8000 times. If the image so formed were again magnified 8000 times—if, so to speak, one microscope could take up the work of another, some molecules at any rate would be visible, although even then the velocity of their movements would probably prevent one seeing them. Hydrogen molecules are said to move with an average velocity of seventy miles per minute. Not less interesting is the account of the law of periodicity in atomic weights, which was first observed by NEWLANDS, and afterwards developed by LOTHAR, MEYER, and MENDELEJEFF. At the last meeting Mr. CROOKES exhibited a diagram, suggested in part by Professor EMERSON REYNOLDS, in which the most recent extensions of this law were shown in a zig-zag line, irreverently described by the wits of the Association as the "chemical corset." Sir HENRY ROSCOE supplied another illustration, not, indeed, diagrammatic, but verbal, which was effective and suggestive, though in a different way. We must refer to the address for the details, but it consisted in placing side by side a few simple pedigrees, with the dates of birth of each individual. Taking these dates as from left to right, and following the same order in each horizontal line, the numbers follow progressively, though with variations in the intervals. Each perpendicular column then represents a family in which common traits may be expected, and there will still be a periodicity throughout the whole. One cannot help being reminded here of Dr. STERRY HUNT'S hypothesis, in which, rejecting DALTON'S theory, he seeks to account for all chemical phenomena by evolution, differentiation, and integration of species.

Space prevents us from following the presidential address through its remaining sections. Spectroscopy received a full share of attention, as did thermal chemistry—a branch of the science which is rapidly replacing by absolute numbers the tables of affinities which figure in old treatises. Nearly all other branches of physical chemistry were brought under review, and subjected in many cases to keen criticism. Organic chemistry, with its wonderful modern syntheses and discriminations of structure, vital phenomena, and pathological chemistry, were also considered.

THE terrible fire at the Exeter Theatre, with its fearful sacrifice of life, comes so quickly after the calamity at Paris when the Opera Comique was destroyed, that it would be difficult to say anything that should not seem stale or commonplace on the subject. Nor is any useful purpose to be fulfilled by mere sentimental remark. It is very regrettable that such holocausts should be offered; and all that can be urged in favour of additional precaution to avoid "accidents" of this class may be urged with peculiar fitness on the present occasion; but we must be excused for leaving to others the practice, but too common, of heaping blame upon some person, or persons, to be singled out—a builder, or licensers, or managers of this or that particular place of amusement—as responsible for what has occurred. In truth, the fault lies at the

door of the community as a whole, rather than at that of any individual or persons. Of course theatres, of all places of concourse, ought to be so constructed as to render escape in an emergency easily practicable. Meanwhile, we have no hesitation in stating that what happened at the Exeter Theatre might almost have happened round a bonfire on Salisbury Plain if a crowd had been equally panic-stricken. It is the panic, with its blind rush of scared and selfish people, that constitutes the *immediate* cause of the calamity. If only the crowd could be controlled, and its exit made quietly, no life would be lost; whereas where there is a mad struggle to escape, some must fall, and others will stumble over them. The same thing occurs in rushes on level ground and in the open air.

If we really desire to go right down to the bottom of the evil, it is necessary to look very far beneath the mere surface facts of a calamity like that which has befallen the playgoers of Exeter. What a panic-stricken crowd really needs is control by authority. Even in this last melancholy occurrence, when the manager appeared at the door of the pit, being recognised, his presence inspired confidence, and he quickly succeeded in clearing that portion of the house without either loss of life or accident. If he could have appeared at the exit from the gallery, it would have been just the same with that portion of the audience, and the one hundred and seventy lives might have been saved. Had the exit been twice as wide and easy as it was, given a panic and without control, the calamity would have been proportioned to the number of persons panic-stricken, rather than to the insufficiency of the way of escape. The lesson to be learned from this and many other facts in connexion with the present and similar calamities is that there ought to be stationed in every separate part of the auditorium one or two officials who should be recognised as especially charged with the safe custody of the audience. They should not be attendants, or police constables, or firemen, but officials wearing a distinctive uniform, and having a status above that of the persons to whom we have referred, so that they might both command respect and inspire confidence. It would be well if a distinct corps could be formed, under the control of the Home Secretary, and independent of the theatres, though the force might be supported by contributions levied on the lessees of places of amusement. To this corps the sole duty of protecting audiences should be entrusted. It would be their business to see that all doors of exit were open, and that every means of escape were practicable. They should have nothing whatever to do with extinguishing a fire, but be held directly responsible for the safety of the audience and for help in its bewilderment. A panic-stricken crowd would look to these officials for protection, and it should be made imperative to submit to their direction. Those who know most of human nature will be aware that even in the wildest excitement there is an underlying desire to be controlled, and a firm authoritative guide will seldom fail to assert his supremacy. The first condition of respect in an emergency is confidence; and the knowledge that a particular official, of suitable physique and instantly recognisable by his uniform, was present, would cause the majority to look to him instinctively for help. This mental attitude alone would render escape more easy.

What we would urge is that in each part of an auditorium of a theatre one or more of these officials should be placed, and that they should be held responsible for taking means to clear the particular part of the theatre entrusted to them with safety to the outgoing crowd. As to the cost of maintaining such a corps, suppose it amounted to a tax of five pounds, or in some cases a larger sum, per night for a theatre, that would not be an unfair impost for the management, considering how greatly it would conduce to the popularity of theatres which are now avoided by no inconsiderable number of persons, simply because they are afraid to frequent places of amusement, knowing that in any moment of danger there is sure to be a panic, and that when it occurs there will be no sort of control or protection, but everyone will be thoroughly selfish and intent only on his own personal safety. The knowledge that a special corps of life-guardians was in attendance would conduce more to confidence in general, and coolness in any critical moment, than any other means that could be devised. We commend the suggestion to those upon whom the provision of means for the public safety devolves, and by whom something must be done, or outraged public opinion will assuredly begin to revolt.

IF we may judge from the amount of attention and space that medical literature is devoting to the subject, one of the dark fields of pathology which is about to receive at least some if not a flood of light is gastric disease. We do not, and in fact cannot, expect any very great advance to be made in this obscure subject without the preliminary settlement of certain elementary considerations. Thanks largely to the laborious investigations of the German physiologists, we may now say that it looks as if in the near future some definite methods will be discovered by means of which we shall be enabled to assert whether any particular stomach which may claim the attention of the scientific physician is or is not in a healthy condition, and this information we expect to be obtained on data other than can be supplied by the patient. We are fast approaching to the acquisition of sound knowledge in respect of the duration of the digestion of various articles of food, and of the causes which tend to delay the departure and accelerate the disappearance of food in the stomach, but we are yet in want of a definite and workable method of estimating the acidity of the gastric juice, and of recognising the bodies to which this acidity is to be attributed. It is sincerely to be desired, for the sake of scientific clinical medicine, that some means may shortly be devised applicable to individual cases, and capable of being used in diagnosis. It cannot be denied that diagnosis needs further elaboration when we bear in mind the poverty of our resources in this regard. Some years ago some hope was engendered by the announcement in a rather enthusiastic way by, we believe, a considerable continental authority, that in all cases of carcinoma of the stomach the juice removed from that organ by means of a tethered sponge was devoid of hydrochloric acid, whilst the succus similarly removed from the stomachs of patients suffering from other diseases than carcinoma contained hydrochloric acid in recognisable quantity. This discovery, had it been one, would have

proved an incalculable boon to clinicians, but observations made since the announcement have shown, we believe satisfactorily, that cases of carcinoma of the stomach are not always marked by the absence of hydrochloric acid in the juice, and, on the other hand, that cases of gastric disease, which to all appearances are not carcinomatous, yet possess the negative quality of being found wanting in hydrochloric acid. BENO LEWY has studied cases in which great atrophy of the mucous membrane of the stomach was attended with suppression of the secretion of hydrochloric acid. M. GRUNDZACH has examined the contents of the stomach of several hundreds of individuals who did not present any signs of carcinoma of this organ. In five of the cases examined, the hydric chloride was invariably absent. Now, although all the five patients were dyspeptics, yet their ages (about thirty) and the absence of any other symptoms, with the very long duration of the dyspepsia, would seem sufficient to negative carcinoma. In none of them was there any interference with the mechanical functions of the stomach, for this again emptied itself in the usual space of time required by healthy organs. The integrity of the motor mechanism of the stomach in these cases seems to show that it is the aliment and not the gastric juice which sets the contractility of the walls of the stomach in action; though it is quite possible for a very acid juice to excite undue manifestations of contraction with too rapid emptying of the stomach, which may be followed by characteristic diarrhœa.

The question of the presence of dilatation of the stomach appears to be more fully studied abroad than at home; and we cannot but think that this possible factor in gastric conditions has not always received the consideration it merits. Of course we refer to the idiopathic dilatation, supposing it to exist, and not to that which is secondary to obstructive disease of the pylorus. GERMAIN SÉE believes that dilatation may be due to degeneration of the muscle of the stomach walls, to atony of the organs associated with general asthenia, and to a special muscular atony which, after having alternated with phenomena of exaggerated excitability, in neurastheniacs, finishes by becoming predominant and persistent. In cases of simple muscular atony, which may be due to congenital feebleness, as ALBERT MATHIEU again suggests, the stomach, incapable of resistance, is passively distended under the influence of the pressure if not the weight of the aliment. The importance of dieting such an alleged case is only too apparent, and, whether the pathology be correct or not, we can bear personal testimony to the value of suppressing such articles of diet as green vegetables, salads, green fruits, and potatoes, except in the smallest quantities and especially prepared. The number of meals may be increased, whilst the amount taken each time should be very small. MATHIEU demurs to the use of adulterated wine, and thinks beer may be drunk, but only with the meals. For the relief of painful sensations M. SÉE recommends the employment of hot drinks—weak tea in the morning and light "grog" in the evening. In order to regulate the bowels in such cases, he advises the taking of a powder composed of magnesia, cream of tartar, and precipitated sulphur, mixed in equal proportions. To increase the general tone of the patient tepid and cold douches are advised, preferably of the shower-bath description, and lasting from twenty-five to thirty seconds, repeated every other day. It has been somewhat aptly said that gastrectasis is in some fashion a kind of asystole of the stomach, and that as we require digitalis for the heart, so some medicament of similar action on the stomach is needed. NUX VOMICA is employed, but ipecacuanha is more successful according to others, and may be administered in syrup of orange; it does not avail, however, if the muscular fibres are degenerated as well as atonied. Chloroform water and hydrochlorate of cocaine, as well as warm drinks, may be employed to relieve the gastralgia.

IF it be true that coming events cast their shadows before, it is equally true that past events leave their shadows behind. The repeal of the Contagious Diseases Acts has produced the most disastrous results in all the English and Irish districts where they had been previously enforced. As has been before noticed in these columns, the present condition of these places is exactly the reverse of that which was reported by the Select Committee of the House of Commons in 1869. It was then: "Prostitution appears to have diminished, its worst features to have softened, and its physical evils abated." At the present time it is notorious that prostitution has largely increased; its worst features—shameless solicitation in the streets, the increased number of juvenile prostitutes and of brothels—have become hardened; while its physical evils in the form of syphilis and gonorrhœa have been greatly intensified. In India it would appear that the authorities have had the experience both of the benefits of the Acts and of the disastrous results of their repeal. The consequences have been that efforts are being made to re-enact the Acts in Calcutta. The Health Society of that city and other advocates of sanitary reform are striving hard to regain what has been lost, and to defend what has still been maintained—a law relating to cantonments, locally known as Act III. of 1880, which has lately been experimentally suspended with the worst possible results. These efforts are being pursued in the midst of an agitation similar to that which has been so active and so unfortunately successful in England. The persons who are so engaged seek to prevent the re-enactment of the Acts in Calcutta, and also to ensure the repeal of the local Act just alluded to. It is greatly to be hoped that they will be unsuccessful, and that wiser counsels will prevail. In the *Journal of the Health Society of Calcutta* there has been recently published a paper giving some facts and figures which show very conclusively both the benefits of legislation and the terrible evils resulting from its withdrawal. It appears that the Surgeon-General of Bengal reported in 1884 that "no sanitary improvement could possibly be brought to more absolute demonstration than the vast decrease of the worst of the contagious diseases in Calcutta, and its practical disappearance from the garrison under the working of the Act of 1868." Statistics confirm this. Among the garrison the ratio of syphilis was 10 per cent. of its whole strength. It sank in 1869 to 9 per cent., in 1870 to 6 in 1872 to 5·7. It never again reached 5 per cent. while the Act was enforced, and was in four years less than 2 per cent. The statement previously made, that it practically disappeared, is therefore no exaggeration. In

1883 it rose at once to 10 per cent. in consequence of the Act having been suspended, and in the following year to 30 per cent. In that same year (1884) the large proportion of 58·14 per cent. of the garrison suffered from some form of venereal disease. Such has been the effects of repealing the Act in Calcutta; and it is well known to the military and naval authorities at home that the prevalence of disease among our troops and seamen is at least equally, if not more, severe. Those who are acquainted with India will know well that prostitution is there a matter of "caste," and that the daughters of prostitutes are from their birth inevitably doomed to that life. It is, therefore, not surprising to learn that the Act has met with no opposition from them, since it has proved the best friend they ever had, saving them from more disease and suffering than all that has ever been either accomplished or attempted by philanthropists. The statistics already given of disease among the troops give some indication of what must have been the condition of these women before the Act was passed, to which state they have by the suspension of this beneficent measure been permitted to return. When the Acts in England and Ireland were suspended in 1883, and repealed in 1886, much surprise was expressed by certain peers and members of Parliament that the members of the medical profession did not send in a memorial in their favour. Some went so far as to express indignation as well as surprise. On behalf of the profession, it may be said that any such proposed memorial would, after all that has been said and done by its members both individually and collectively on behalf of these Acts, have been entirely superfluous. It is well known that these Acts have the support of all the leading members and of an overwhelming majority of the whole of the medical profession. It is not for the profession but for the public to decide the question. All that concerns the former has been long since settled in favour of the Acts. If the prevention of loathsome diseases among the unfortunate prostitutes in garrison towns and naval seaports, as well as among the soldiers, sailors, and civilians, be not a sufficient reason for restoring the Acts, the time is not far off when such restriction will be demanded for a less worthy reason—the financial one. Once let it be established that these diseases are more costly than the means to cure them, and self-interest will effect what more worthy motives have failed to accomplish.

Annotations.

"Ne quid nimis."

MEDICAL EDUCATION AND INFECTIOUS DISEASES.

THE remarks of Professor Haughton of Dublin, in the recent discussions in the Medical Council, on the necessity for insisting on students seeing the infectious fevers and the treatment of them as a vital part of their education, receive a striking confirmation in a report to the Corporation of Newcastle-on-Tyne by Mr. H. E. Armstrong, medical officer of health, on the subject of a recent outbreak of typhus. This disease of late years had until very recently been rare. In many towns it has probably been entirely absent for years. Unfortunately, the disease at the present time appears to be likely to be more rife in the metropolis, several cases having, within the last few days, been received in the hospitals of the Metropolitan Asylums Board. Still, it would certainly be possible for students to go through their ordinary curriculum in many schools and not see one case of typhus. Mr. Armstrong says that at the present time no English university or medical examining body requires compulsory attendance at a hospital for infectious diseases as part of the curriculum for its degree or diploma, with the exception of the University of Durham. This is rather a strong statement; but if any contradiction of it is possible, the sooner it is made the better. If not, we commend it to the committee now charged with a consideration of the best methods of increasing the practical element in medical education. To have such statements made to corporations, and repeated in the daily papers, is not calculated to increase the public respect for medical education, or for the Medical Council. It is no answer to such an assertion to say that the infectious and eruptive fevers cannot be treated in general hospitals. It would be improper to treat them there except under the most exceptional circumstances, and with the extremest care. But they can now be studied on a large scale in hospitals set apart for such cases, and they can be largely studied in private practice under conditions of pupilage. In the face of such statements as Mr. Armstrong's, we think the Medical Council will neglect its duty if it does not make very plain representations to the examining bodies on this point. It is said that difficulty sometimes arises from the reluctance of medical students to visit wards or cases of an infectious character; but we trust this is a libel. Certainly no student is worthy to enter the medical profession who is not prepared to take all such risks as are involved either in learning or practising his profession.

METROPOLITAN DUAL CONTROL.

UNDER the above heading *The Times* publishes an article by a correspondent which discusses the anomalous position in which the Metropolitan Asylums Board are placed, by having to provide hospital accommodation for all persons suffering from infectious disease, whatever their social position may be, and he points out that this has arisen from the omission of the metropolitan sanitary authorities to exercise the powers conferred upon them by the Sanitary Act of 1866. In this matter, however, these authorities are less to blame than the Legislature, which imposed a duty upon district bodies which could only be properly performed by one acting for the whole metropolis. Serious difficulties have arisen in consequence, and residents in London have been slower to resort to institutions through which the only medium was the relieving officer, than would have been the case had the hospitals been a branch of sanitary administration. The increased facilities which now exist for the admission of cases of infectious disease have led to the much larger use of the hospitals of the managers, and no doubt tend to exaggerate at the present time the evidence that London is suffering severely from scarlet fever. The statement on Wednesday that there were 1067 scarlet fever patients in these institutions ceases to excite the same alarm when it is considered that the cases are in the proportion of 1 to 4000 of population, and that the disease is of an especially mild type; this fact deserves to be remembered, for the free publication of statistics of the epidemic is undoubtedly conveying to many minds the belief that a more serious calamity has befallen London than is really the case. That Londoners thus willingly send the sick to hospital is matter for congratulation; and the writer above referred to expresses the sentiment of all engaged in preventive medicine when he suggests that the cost should fall upon the community rather than upon those who have sought isolation. The removal of infectious persons

from houses in which they cannot remain with safety to other persons is so distinctly of advantage to the public, that it would be false economy to discourage removal by taxing the patient with the cost of his maintenance.

RECOVERY IN A SUPPOSED CASE OF MYXŒDEMA.

DR. F. W. WARFVINGE, a Swedish physician, has published an account of an interesting case occurring in a carpenter's apprentice, aged nineteen, who had previously enjoyed good health. About eight weeks before admission into hospital he began to be easily tired, and when he walked suffered from pains in the legs, and especially in the calves. At the same time he began to "see double." Besides these symptoms, it was noticed that he would repeat the same questions over and over again. His legs began to swell first, and then the swelling extended to other parts of the body. Gradually his intellectual as well as his physical powers diminished; he became apathetic and indifferent to what was going on about him, and lay half asleep most of the day. When he got up he experienced considerable difficulty in standing, and could not walk without assistance. He also had difficulty in retaining his urine, which did not present an altogether normal appearance. He was admitted into hospital on March 31st, 1886, and then presented the following symptoms: Appearance very apathetic; face rigid, wanting in expression, bloated, with the more prominent parts effaced. All the rest of the body was swollen, without there being any true œdema. On the lower extremities, where the swollen appearance was most strongly marked, the pressure of the fingers produced a slight impression, which immediately disappeared. The skin was everywhere infiltrated, thickened, of an elastic hardness, dry to the touch, of a dirty grey colour, with a slightly cyanotic tinge on the lips and cheeks. The neck was short and thick. No trace of the thyroid body could be detected on palpation. The patient suffered from general nervous depression; he was incapable of any occupation, and dull and indifferent to what was going on about him; his memory was defective, and he did not remember what had only recently occurred. He could not walk unless he was supported under the arms, and his gait was slow, heavy, awkward, and dragging. He moved his arms slowly and with difficulty, and could only exert a slight pressure with the hand. His sensations were blunted. He did not complain of any pain, slept well, had a fairly good appetite, and his bowels acted regularly. The respiratory and circulatory organs presented nothing abnormal. The blood was found to contain the normal number of red and white corpuscles. No enlargement of the spleen. No albuminuria either then or subsequently. At first the quantity of urine passed per diem was rather low, being only 900 to 1000 cc., and sometimes there was difficulty in retaining it. The temperature was normal all through. He was treated by hot baths and solution of arsenite of potassium (liquor arsenicalis), of which four drops were given three times a day. He soon began to improve, progressing slowly but uninterruptedly till he left the hospital, after having been in it thirteen weeks. His control over his muscles had not then quite returned, and his gait and other movements were still somewhat awkward and embarrassed. In other respects he appeared to be in good health, his skin had regained its normal appearance, and he had for a considerable time been able to make long journeys without fatigue. His mental condition also had become quite normal. After a course of baths during the summer he presented an appearance of perfect health, and this he has retained for a year. Though the symptoms in this case appear to indicate its identity with other cases of myxœdema, it differs from them in the rapidity of its course, and in the ultimate recovery of the patient, for the disease has hitherto been looked upon as incurable. Whether the arsenical treatment had anything to do with the favourable issue is a matter upon which Dr. Warfvinge does not wish to offer any opinion.

THE SANITARY CONDITION OF CAPETOWN.

MR. EASTON deserves the thanks of the inhabitants of Capetown for exposing in a public lecture recently delivered the terrible and dangerous condition of the slums of that city. The municipal authorities and the police had given him, he said, every assistance in his investigations, which, indeed, would otherwise have been simply impossible. In the course of his peregrinations two rooms were pointed out to him not twelve feet square, in each of which fifteen persons, men and women huddled together, had slept for the night, in addition to which the passages had been lined with human beings right through to the back yard and into the yard itself. He had himself stepped over the sleeping bodies in the passages and rooms as he passed through a house, and could well believe that he did not on that occasion see the worst. He went on to say that at the east end of the town he saw a room about ten feet by twelve, occupied by fifteen Kaffirs, packed almost to suffocation, and in a state of indescribable filth. He remarked: "I sometimes think that if all the inhabitants were bent on suicide, and had made up their minds to bring about and die of typhoid fever, they could not do more towards compassing their desired end. It is a standing invitation to all forms of disease and death. But there is something more horrible still. In those parts of the town, where the masses of the poor, the idle, the dissolute, and the criminal congregate, there is a terrible percentage of disorderly houses of the very lowest type, spreading far and wide the most loathsome of diseases, so that one might say without exaggeration that here you have to deal with a seething mass of corruption brought about both by the vices of the people and by their filthy surroundings." He was much struck with the absence of elderly people, and on mentioning this to someone, he was told "they all die off; drink and living in such dens were more than the strongest constitutions can stand." As all these unclean specimens of humanity have votes, this may be one reason why no serious attempts are made to cleanse the Augean abominations. Each of the four sanitary districts has one inspector, but Mr. Easton suggests that three or four more ought to be appointed. Probably, however, it will require the visitation of some fearful epidemic to awaken the authorities to any real sense of their responsibilities.

A PLEA FOR SUPRAPUBIC LITHOTOMY.

DR. T. SVENSSON of Stockholm, having practised all the recognised methods of operating for stone in the bladder, has had complete success since he commenced to perform the suprapubic operation for large stones and in severe and complicated cases. He has performed this operation with various objects, and he considers it by no means dangerous in itself if it is only executed with the necessary precautions (in two sittings, with antiseptic methods, a cautious injection into the bladder, &c.). Thus he removed by suprapubic lithotomy, or epicystotomy as he terms it, a stone nearly as large as a hen's egg, from an old man, who was extremely weak, and who was suffering at the time from senile gangrene affecting the foot and the lower part of the leg. A few weeks later amputation had to be performed through the thigh; but the patient was afterwards sent to his home (which was at a considerable distance) completely cured. Dr. Svensson does not invariably perform the operation at two sittings, and he does not resort to it, of

course, in all cases of stone. Lithotrity at a single sitting, litholapaxy, as well as median lithotomy, always, he considers, present their own indications, which is not the case with the lateral operation. In the performance of suprapubic section, he agrees with Petersen that plugging the rectum, while at the same time the bladder is filled, contributes in a marked degree to facilitate the operation and to render it free from danger. Complete suture of the wound is not generally desirable, but the application of some sutures to the bladder serves to check posterior hæmorrhage, and may be requisite for this purpose. Usually before opening the bladder Dr. Svensson passes a running noose of thread through the wall of the bladder so as to include the line of incision, thus providing a remedy in case hæmorrhage should occur. His experience is that posterior hæmorrhage occurs in an eighth of the cases if sutures are not applied to the wound in the bladder. He endeavours to show that the suprapubic operation is safer than other methods, the patient recovering more rapidly than after litholapaxy, the pain also being very slight. An additional advantage is on the side of suprapubic section: it is available for other affections of the urinary passages, and without it some of these diseases would be incurable. He hopes in a subsequent paper to give an account of his experience in the Sabbatsberg Hospital.

SCARLET FEVER IN LONDON.

As many as 156 cases of scarlet fever were admitted into the hospitals of the Metropolitan Asylums Board during the week ending September 2nd, and the resources at the disposal of the managers are being seriously taxed. Stockwell Hospital, which has 322 beds, will, it may be anticipated, receive a considerable number of patients during the present week, and probably by the end of the month the whole of the accommodation which the five London hospitals can provide will be exhausted. Already there are more than 1000 patients under treatment in these institutions; no diminution in the epidemic can be hoped for until after the first week in October, but in all probability from that time it will decline. The managers still have at their disposal the hospital at Winchmore Hill and the hospital ships, and these should serve for any increase during the few weeks of epidemic prevalence that remain. It is interesting to note that, notwithstanding the large number of persons who are attacked, the deaths from scarlet fever are below the average for the same period during the last ten years. There is reason for congratulation that no single case of small-pox has been admitted during the past week into the managers' hospitals, but enteric fever and typhus are making some demands for accommodation.

PHYSIC AND PHYSIOLOGY FOR FOOLS.

ONE of the most melancholy features of present day journalism is the rapidity with which it is becoming the medium of the propagation of false physiology and falser physic. It would be ludicrous if it were not so pitiable, as showing how ignorance is rampant, that such lucubrations as have been published of late in one of the most widely circulated of our London evening papers should ever have been permitted to be inserted with all the honours of type and position. The writer, whose name and address are appended to his contributions with the affix "M.D.," is, we may observe, not to be found in the Medical Register. Indeed, a few extracts from his latest advocacy of "Apples as Food" speak for themselves, and carry with them their own condemnation of the scientific pretensions of the writer. The article is headed a "Remedy in Consumption." It opens with the information that "Consumption is nothing more than a specific deviation in the nutritive process by the withdrawal of free phosphorus," and goes on to say that the blood of the consumptive is deficient in this element and in fibrin. The reader is further informed that "fibrin is the formative or nutritive portion of the digested food advanced into the final state of preparation for organisation"; that "while retained within the channels of the circulation it builds up various structures of the nature of tendon and gristle." Also that "tubercle is caused by a deficiency of fibrin and phosphorus, for fibrin cannot be formed without phosphorus in the blood"; that "multitudes of important vital agents called *phosphoric cells* ..... which are endowed with a kind of vitality ..... convert the raw albumen of the chyle into vital fibrin." It appears, according to this authority, that "the tuberculous constitution is "deficient in these phosphoric cells," and "this is one step at least in accounting for the deficiency of fibrin"—and so on in the same strain through another column, all leading up to the precious conclusion that a diet of apples, potatoes, and tomatoes, or the administration of their infusions by inhalation (!) forms the sovereign remedy because they furnish a supply of free phosphorus. It is insulting to the intelligence of the community that such sorry stuff as this should be found in the columns of a newspaper, even in the "silly season." Carlyle's memorable dictum is not far from the truth, if this is to be the kind of instruction accepted by mankind.

MORPHIINOMANIA.

OF late years we have become painfully alive to the fact that the too rapidly increasing total of luxuries which accompany civilisation includes the use of opium for other purposes than the treatment of disease, and that this misuse of the drug is by far less exceptional than it has been. In an article in the *Nineteenth Century* for this month, Dr. Seymour Sharkey refers to the inroads which this detestable vice is making into health and happiness, especially on the Continent, but also in this country. The picture which he draws of the consequences that certainly follow this form of indulgence is by no means overdrawn. The false ease, the relapse into misery, the failure of function, mental and bodily, the moral perversion, the difficulty of reform—these are no new features in the history of the opium-taking habit. Deliverance from its baneful mastery is, happily, not impossible; but we need not say that here the great superiority of prevention over any method of cure whatever is clear beyond all need of proof. The habit of morphia or opium taking is formed, as a rule, in either of two ways: it may begin as an idler's pastime, a quasi-scientific diversion; or it may be formed almost accidentally out of the legitimate use of the drug as a medicinal agent. In a sense, it may appear hardly necessary that we should seek to impose the restraint of our advice on those with whom this practice is a mere amusement. They know the danger which lurks within their newly-found pleasure; it is a matter of common notoriety; but they are confident of their skill to avoid it. Why warn them further? To argue thus, however, is only to fold our arms in the presence of the enemy, and it is also evident that the consequences of this hurtful custom in many cases do not light only on the offender himself. We must therefore remind any who may be lingering over this temptation that they have not to do with a luxury in which moderate indulgence is either natural, healthful, or even possible, but with a substance which, taken in health, can only injure, and whose power can only be gauged by painful reflection. On behalf of that other class in whom the habit is formed by past experience of relief of pain, we would strongly deprecate the over-confidence which occasionally induces such patients to treat any symptoms of discomfort or pain by having unauthorised recourse to the

old remedy. We cannot in such cases insist too strongly on the necessity of retaining the use of a drug so seductive yet so powerful exclusively within the province of the physician. As regards the treatment of the established habit, it is even more true of opium than of alcohol that no middle course is possible between abstinence and infatuation. The vice of morphinism, if it is to be abandoned, must be at once and totally relinquished. The privation will indeed be felt, but not for long, and the freedom finally attainable is worth the effort.

SIR W. R. GROVE, F.R.S.

THE retirement of Mr. Justice Grove removes, happily without extinguishing, one of the brightest ornaments of the English Bench. Events, and especially scientific events, move so fast nowadays that it seems quite an age since Mr. Grove, as he was in 1847, received the Bakerian medal of the Royal Society for his lecture on Voltaic Ignition. And, measured by events, an age it is. But it has dealt very kindly with Sir William Grove. It has crowned his early labours with abundant success and assured to him a lasting place in the memory and affections of the world of science. The author of the now classic essay on the "Correlation of Physical Forces," and the inventor of the "gas voltaic battery," bears a name which will be remembered and revered when the recollection of his legal career is preserved only in law books. But that will not be just yet, for the impression of his urbane manners and judicial bearing will not easily pass from the recollection of his contemporaries, even of those who only saw him from the unenviable position of litigants. We cordially wish him a long enjoyment of that *otium cum dignitate* which he has so well earned and is so eminently fitted to adorn.

OPHTHALMIC PRACTICE IN RUSSIA.

DR. KUBLI has recently published a report of the last five years' work of the ophthalmic out-patient department of a St. Petersburg charitable institution. The number of cases reported on is 23,286, all being adults, as children's eye diseases are provided for in a different institution. The most common affections were, of course, those of the conjunctiva, which comprised more than 10,000 of the total number of cases; next to these came affections of the cornea and sclerotic (5000). There were 213 cases of glaucoma and 449 of diseased lens (cataract?). Amongst the rarer forms of ophthalmic disease there were noted 6 cases of tarsitis of syphilitic origin, 5 of amyloid degeneration of the conjunctiva, one of partially persistent pupillary membrane, one of cysticercus in the vitreous, and one of hysterical amblyopia. Dr. Kubli prefers yellow wax and olive oil as a basis for ointments. He has seldom been obliged to resort to total extirpation. For acute and gonorrhœal conjunctivitis he has tried corrosive sublimate in solutions of various strengths. The 1 to 10,000 solution was very badly borne; the 1 to 15,000 was too irritant; the 1 to 20,000 was borne well, but it was of doubtful efficacy, and when used for a length of time not infrequently set up erythema, œdema, and eczema of the lid. He prefers a 4 per cent. solution of boracic acid or chlorine water to corrosive sublimate, carbolic acid, or salicylic acid. A 2 per cent. solution of jequirity was tried in a number of cases of granular lids without any satisfactory result. In phlyctenular conjunctivitis, he prefers dusting with finely powdered iodoform to calomel and iodol applications. In severe ulcerating and purulent corneal affections, he has employed eserine and pilocarpine with good results. For tattooing leucomas he prefers a simple Lüer's needle, such as is used for conjunctival incisions. After applying very finely powdered indian ink to the surface with a spatula, he pricks the latter all over with the needle held obliquely, and then rubs the indian ink into the punctures with an indiarubber spatula. In atrophy of the optic nerve, subcutaneous injections of chloride of thebine (thebinum muriaticum), containing 0·001 to 0·003 gramme, were tried without any effect.

THE HOMELESS POOR.

THE vagrants who sleep in Trafalgar-square, on the benches in St. James's Park, on the Thames Embankment, and other public places, must be regarded as evidence of considerable poverty, such as was the forerunner of typhus in the days when epidemics of this disease were more frequent than they are at present. The absence of typhus from London, to which we have become accustomed, must not blind us to the fact that we have still in this great city ample material in which it can develop; and if it should be found that there is exceptional poverty, and a cold winter should supervene, sanitary authorities may have to exercise considerable vigilance to prevent an outbreak. Already there are some indications of the existence of this disease in London. Two cases have been removed during last week to the hospitals of the Metropolitan Asylums Board from Bethnal-green and from separate houses, one from Islington, four from two houses in Whitechapel, and one from another house in the same district; thus one week's record shows that six houses have been invaded. Occurring early in September, these cases cannot but be regarded as ominous, and we may look with some anxiety to the time when winter gives increased opportunities for the development of this disease. It is a matter of much importance to know the manner in which typhus has been introduced into the metropolis, and whether these cases have any relation to one another. The hope of guarding against further introduction must depend upon this being done; yet, likely enough, apart from such inquiry as we may anticipate will be made by the health officer of each district, there is no central department that will concern itself with these occurrences. The risk to London is seriously increased for want of this organisation.

EELS IN LONDON WATER MAINS.

IT will be remembered that during the course of last year numerous complaints were made by the inhabitants of West Ham as to the existence of eels, both alive and dead, in the water pipes of the East London Water Company, and that the circumstance was attributed to the giving way of a filter at Lea Bridge in 1879, subsequently to which the eels had bred and multiplied in the filtered water, and even in the mains. Public inquiry into the matter was at last instituted, and it was held by Major Scott, water examiner, and by Mr. W. H. Power, of the medical department of the Local Government Board. In a very elaborate report they entirely dispose of the preconceived notions as to the source from which the eels came, and they express their conviction that the eels obtained direct access to the interior of the Old Ford reservoir. In explaining the process by which this took place, some very interesting material as to the natural history of eels is supplied. It has somewhat recently been ascertained that full-grown eels are in the habit of descending rivers towards the sea each autumn, and that each spring myriads of minute eels ascend the rivers, coming out of brackish waters and penetrating to the furthest limits of inland streams. A gravid female eel and the male eel have, however, as yet never been seen. Then, again, it is explained that eel fry in their journey up stream have a great power for surmounting what appear to be impassable barriers by climbing ashore and passing overland. Now adult female eels and their young, whether discontented, as the report suggests, with the flavour of the polluted Lea, or for other reasons, would

find in the shelving banks by the Water Company's works the best of opportunities for favouring their whim for wandering ashore, and it would be but a little distance to the attractive and grass-clothed roof of the reservoir. Disporting themselves here, they would find no difficulty in dropping into the reservoir itself by means of apertures in manholes and ladder holes, and, once having gained admission, their migratory instinct and their lack of adequate food would doubtless lead them to start on a journey *down stream*, whence they would soon find themselves pumped into the mains. This explanation of the existence of eels in the water mains appears a much more satisfactory one than any other put forth, and it avoids the difficulty, inherent in any other hypothesis, of explaining how eels, however small, could pass through the pinhole apertures in the screens, which are so placed as to prevent the passage into the reservoir of any such objects from the river. The conclusions arrived at are well reasoned out, and the report is one which possesses a good deal of general interest.

GRANULAR OPHTHALMIA IN THE RUSSIAN ARMY.

DR. TALKO, writing in a Polish journal on granular ophthalmia (trachoma) in the Russian army, gives it as his opinion that the reason why this affection is always rife in the army is that recruits who are suffering from it are accepted, and they doubtless infect others. In the year 1885, 8350, or 67·2 per 1000, of the recruits were returned as "trachomatous." In some years the number of recruits affected has been as high as 10,000. The different arms of the service seem to be affected in very different proportions. Thus, while 83·6 per 1000 of the infantry, 59·9 per 1000 of the engineers, and 23·8 per 1000 of the artillery were affected, the disease was unknown amongst the Cossacks. This Dr. Talko accounts for by the fact that the Cossacks are not kept so much in barracks as the others, but are exercised more in the open air, besides which the disease is not met with among the young Cossacks on the Don.

GRAND CANARY AS A HEALTH RESORT.

AMONG the more important papers read at the recent meeting of the British Medical Association was one by Mr. Mordey Douglas of Sunderland on the virtues of Las Palmas, on the N.E. coast of Grand Canary, and long since described in the gazetteers as the largest, most beautiful, and most populous towns in the Canaries. Mr. Douglas enters into a minute comparison of the respective advantages of Oratava, the capital of Teneriffe, expresses a very decided opinion in favour of Las Palmas, and gives the following as the principal points of advantage: (1) a much larger amount of sunshine; (2) as regards the Atlantic, a drier air; (3) as regards the winds, a drier air; (4) as regards rainfall, a drier air, because of greater rapidity of evaporation, to say nothing as to quantity; (5) a much more invigorating climate. This element of invigoration in the air is by Mr. Douglas specially associated with the north-east trade wind, which, beginning in the calm region of the Tropic of Cancer, almost constantly fans the eastern coast of Grand Canary with its gentle, dry, invigorating breezes; whilst the island of Teneriffe, being on the outer edge of the trade wind, is, according to Mr. Scott (Elementary Meteorology, p. 423) during the winter enveloped in the south-west moist counter current. As regards the temperature, the mean of the six coldest months is 63·10°, and the daily range is 10·86°. Though slightly warmer than Madeira, it does not feel so, owing to the refreshing trade wind. Mr. Douglas considers the climate of Las Palmas specially suitable to cases of phthisis of a pneumonic origin, but would expect it to prove beneficial in cases of chronic bronchitis, kidney disease, rheumatism, or the infirmities of age. As regards the last class of diseases, the proximity of home and of high medical and surgical skill is not to be overlooked. Mr. Douglas speaks feelingly on the subject of the *Gran Canaria* as having been apparently saved by it from a dangerous phthisical condition. He went branded with the words "no hope," and came back in comparatively obvious health, and we believe he means to give still further proof of his belief in the climate by returning to it for another winter. Las Palmas is said to be easily reached from Liverpool by the excellent steamers of the British and African and the African Companies, one of which sails every Saturday. It is to be regretted that the time allotted to Mr. Douglas did not permit of his giving his clinical facts and cases in support of the strong opinion he has expressed in favour of Las Palmas as a climate for phthisical and other diseases. It is desirable that such information should be published. The unfortunate events in the Riviera last year naturally increase the embarrassment of physicians and patients in deciding on a place of winter resort. Besides, the whole subject of a suitable place and climate for the delicate and the phthisical is under special discussion just now. The old notion of shutting them up in a simply warm place is very considerably discredited, and replaced by a strong conviction that purity of atmosphere and a refreshing or invigorating element are equally essential and indispensable. Even a cold atmosphere for certain cases is beneficial, and to all the invigorating element is highly valuable. Under these circumstances, we commend to all practitioners a careful perusal of Mr. Mordey Douglas's address, by which, we think, he has made a valuable contribution to climatic therapeutics.

GLANDERS IN A WOMAN.

A WOMAN, aged twenty-seven, was admitted into St. Thomas's Hospital, under the care of Dr. Hadden, on Aug. 26th. The patient lived with her husband in a mews in New Kent-road. It seems that the woman used often to attend to the horses, and her sister declared that "she was more like a man about the stableyard than a woman." About a month before her admission a horse died from "inflammation of the lungs" in a stall adjoining the room in which the patient lived. It was stated that the horse had no discharge from the nose. About three weeks later another horse died, and the husband attributed his wife's illness to contagion from this animal. The woman began to feel ill about a fortnight before admission, but did not take to her bed until a week later. She was clearly in a dying state when seen on admission: she could not respond when questioned, was constantly muttering, and the hands and lips were tremulous. The lips were dry and covered with sordes, and the tongue was coated with dry, yellowish-brown fur. The respirations were shallow, 50 per minute; the pulse 120, and very feeble. The cutaneous affection was of a twofold nature: there were a limited number of small cutaneous abscesses, mainly on the chest, and rather a larger number of raised red lumps, varying in size from a shilling to half-a-crown, corresponding to deeply seated inflammatory centres. No enlarged glands were detected. There was no discharge from the nose, and no affection of the conjunctivæ. The temperature rose from 103·8° on the day of admission until it reached 108·4° on the evening of the next day, when she died. At the post-mortem examination several deeply seated abscesses, some subcutaneous, others in the muscles, were found scattered over the trunk and limbs. The nasal and laryngeal mucous membranes were not affected. Only one abscess was discovered in the internal organs, and that was found in the right lung, abutting on the surface. We are informed that the coroner has refused to hold an inquest, and it may be that he is acting within his powers. It is

very clear, as a correspondent to a contemporary evening paper has pointed out, that the matter should be investigated on sanitary grounds, and we trust the local authorities will be alive to the importance of the inquiry.

AN ELOGE ON THE PROFESSION.

IN a charming volume of poems, just published under the title of "Underwoods," Robert Louis Stevenson, in dedicating his book to "a few out of many doctors who have brought me comfort and help," introduces it with the following eloquent eulogium upon our profession:—"There are men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not unfrequently; the artist rarely; rarelier still the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilisation; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade: discretion, tested by a hundred secrets; tact, tried by a thousand embarrassments; and, what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing." Mr. Stevenson is a nephew of Dr. G. W. Balfour, Vice-President of the Royal College of Physicians of Edinburgh, so well known by his excellent work on Diseases of the Heart. He is the grandson of the eminent engineer who designed and built the Bell Rock Lighthouse, and son of the equally eminent engineer, the late Mr. Thomas Stevenson, by whom the Skerryvore Lighthouse was erected.

AN ALLEGED NEW SYMPTOM OF TUBERCULAR MENINGITIS.

THE existence of a small circle on the iris close to the pupillary border, which it completely surrounds, is the new symptom to which Dr. Skeer has drawn the attention of the Pathological Society of Chicago. When this circle commences to appear it is more or less indistinct, and resembles a whitish ribbon of somewhat transparent aspect, whose inner margin is extended almost to a level with the free border of the iris. At the end of from twelve to thirty-six hours the whole border of the iris is invaded, and has taken on a blanched tint of irregular and granular aspect. These changes, which commence simultaneously in the two eyes, are more apparent in irides of a brown colour, and they may disappear sometimes with great rapidity (so that it is necessary to examine the eyes every day), and give way to yellow-brownish rings, which increase in size as the pupil dilates. Dr. Skeer believes the changes to be tuberculous in nature and pathognomonic of tubercular meningitis.

UNOFFICIAL FORMULARY.

IN August, 1886, a committee was appointed at the British Pharmaceutical Conference to prepare a formulary of unofficial remedies. The result of the work is now before us in some eighteen pages, comprising thirty-six formulæ. The avowed intention is to bridge over the period of probation through which new remedies necessarily pass before their official recognition in the British Pharmacopœia. Hence the great object of this formulary is not so much to indicate what new drugs may be employed, but rather to suggest the most suitable solvents for those substances which have already acquired a certain reputation, to indicate what appear to be the best proportions, and also the most appropriate adjuvants. Where nauseous qualities exist, an attempt has been made to correct or disguise them. The desirability of some such "unofficial" information must have been long felt by both prescriber and dispenser, who certainly like to feel sure of the composition of their remedies. As it stands, the "unofficial formulary" is a protest against the use of remedies of secret composition. Many of the formulæ, like the *tinctura chloroformi et morphinæ* of the British Pharmacopœia may be regarded as guesses at the composition of well-known proprietary drugs. Others, on the other hand, deal with substances such as grindelia, hamamelis, hydrastis curare, convallaria coto, quillaia, &c., all of which have already gained a certain reputation, although they have not yet been allowed a place in the British Pharmacopœia. The work reflects great credit upon the committee entrusted with the duty of preparing it, and will doubtless be welcomed both by physicians and pharmacists. The only criticism we would offer at present is as to the suggestion that the formulæ of the unofficial formulary should be indicated in prescribing by adding the the letters "B.P.C." The first two letters have already such widespread and definite application that it appears a pity to disturb them, especially as the meaning of the third initial does not appear to be very clear.

CHOLERA INTELLIGENCE.

CHOLERA, although not extending rapidly in Malta, shows some signs of further activity. During the week ending September 5th, there were forty-one fresh attacks and twenty-seven deaths, and of the latter seven took place on the 5th. The disease is scattered over various parts of the island, and in all probability the real number of non-fatal attacks is not accurately known by the authorities. As yet it is almost, if not altogether, limited to the poorest portions of the native population, who are ignorant and disinclined to receive medical assistance. Amongst them there is already a great deal of destitution, and having regard to the fact that this so often becomes a strong predisposing cause of the disease, it is to be hoped that the appeals for charity which have been organised locally, and which have been submitted to the Lord Mayor of London, will receive adequate response. In Sicily there is an almost continuous daily record of deaths from the provinces of Catania and Palermo. There is also special intelligence as to a fatal outbreak at Trapani, on the extreme west coast, and at Grotte in Gergenti. The news from Naples comes but sparingly; cholera deaths, however, are still occurring there; and on the 4th inst. two deaths in Rome appear to have been properly attributed to the same cause.

MICRO-ORGANISMS IN THE ALIMENTARY TRACT.

THE interesting and valuable communication of M. Vignal to the Académie des Sciences, published in *La France Médicale*, No. 99, deserves a passing notice, for it seems to give us a glimpse into the future of physiological chemistry. M. Vignal has discovered a great number of microbes, not only in the mouth, but also in the fæcal discharges from the intestines; but the importance of this discovery does not consist either in the detection of the microbes, or in their presence in great numbers. These microbes M. Vignal has found to possess very remarkable powers of chemical metabolism, for seven of them dissolved albumen, whilst five of them caused it to swell up and become transparent. Nine of the micro-organisms could dissolve gluten, seven coagulated milk, and six dissolved casein, whilst three transformed starch into dextrin, and no less a number than nine transformed lactose into lactic acid; seven inverted crystallised sugar, and seven fermented glucose with the production of alcohol. Amongst these micro-organisms, six resisted for twenty-four hours the action of the gastric

juice at a temperature of 38° C., and the presence of spores seems to give still larger powers of indestructibility. Pancreatic juice artificially prepared and of strong digestive powers, as also bile, possessed no destructive action on these organisms. The outcome of these researches appears to be that M. Pasteur's opinion, which attributes a great *rôle* to the work of organisms in digestion, receives much support, and we may also grant the conclusion that the phenomena of digestion are far more complex than appears to be the case at first sight.

THE BISHOP OF CARLISLE ON ADVANCE IN MEDICAL SCIENCE AND ART.

IN a sermon preached in Manchester Cathedral to the members of the British Association for the Advancement of Science by the Bishop of Carlisle, a well-merited reference was made to the enormous boon conferred on suffering humanity by the progress of medical and surgical science and art during the past fifty years: "Let them think of medicine and surgery. The progress of science could not put a stop to sickness and suffering. Civilisation and artificial habits of life probably even increased and multiplied disease, but everyone must be aware how absolutely different the treatment of disease and accident was now from what it was half a century ago."

MEASLES PARALYSIS.

ALTHOUGH Landouzy, in his excellent work on the Paralysis of Acute Diseases, asserts that, without being exceptional, paralyses are less frequent with measles than with variola, yet it may be questioned whether measles does not distinguish itself, rather more frequently than is generally supposed, as the efficient cause, in certain cases, of obscure nerve disease amongst children. There are grounds also for believing that disseminated sclerosis may find a cause in measles. M. Négrié of Bordeaux has observed a case of acute ascending paralysis consecutive to measles, and he has published the clinical aspect of the case in the Bordeaux *Journal de Médecine*, No. 3 (August 21st, 1887). The child was three years old, and on the tenth day of full convalescence after measles considerable weakness was first discovered in the upper and lower limbs and in the neck muscles. Headache, pains in the limbs, and a fever of nearly 104° F. were other symptoms. The paralysis increased in degree, so that sitting was impossible; the knee jerks disappeared and the plantar reflexes appeared to be diminished. Before speaking, the child was noticed to make some jerky inspirations. Sensation and the sphincters were not affected. Paralysis of respiration seemed to be the principal cause of death, which took place five days after the *début* of the paralytic symptoms. Négrié does not make any reference to the possibility of the presence of diphtheria in the case in question.

A COMPENSATION CASE.

A DIFFICULTY has arisen at Newton-Poppleford as to whether compensation can be given by the St. Thomas rural sanitary authority in the case in which bedding and clothing were destroyed in an instance of alleged fatal cholera, the destruction having been carried out on the advice of Dr. Pullin, a private medical practitioner. The widow is by no means well off, the action taken was adopted in the interests of public health, the promptitude of Dr. Pullin has been recognised by all, and yet the authority decline to give the compensation asked for. It is quite true that, according to the strict letter of the law, "the authority" must direct the destruction, and it may then "give compensation for the same." But it is perfectly well known that since the authority, as such, only meet at distant intervals, the provision would be perfectly useless if their actual assent were always required. The reasonable attitude for them to assume would be to adopt the action taken by Dr. Pullin on their behalf and pay the compensation. No one would ever interfere or find fault, and an equitable termination would be brought about. We understand that the Local Government Board have been communicated with, but except in the case of a surcharge we do not well see how they can help the authority. The intention of the clause clearly is that the authority should act as it sees fit in the matter.

HYSTERICAL RELIGION.

OF course nothing disrespectful to the idea of a truly religious sentiment must be inferred from our use of the phrase *hysterical religion*. What we mean to designate by that term is religious fanaticism essentially emotional in its nature, and probably also in its origin. "Jumping," "Shaking," and the like are distinctly morbid disturbances brought about by abandonment of the controlling will and judgment to the sensory impulses or the passions. Weak minds are supposed to be more prone than those which are normally robust to make this surrender of self-control, but, as a matter of fact, it may be, and doubtless is, not unfrequently made by the strongest of intellectual organisms under the influence of such strong "feeling" as may readily be produced by overtaxing the higher cerebral centres. The wondrously complex mental apparatus is easily thrown out of working order, and it is not in the least surprising to find the more delicately organised and sensitive machinery of mind work so disabled. It follows upon this consideration that the subjects of "hysterical" disturbance in connexion with religious thought and emotion are rather to be pitied than blamed for their vagaries. Nor are we prepared to say that, however much the existence of distinctly hysterical religions may be regretted, they ought to be put down by law. At the same time it is clearly in the interests of public health and sanity that they should be adequately controlled, and we cannot help thinking that the young girls who hop in "glory holes" ought to be placed under some kind of supervision, if only that they may not be allowed to fall victims to the men "full of devils" who are *not* turned out of the places of "worship" where these decidedly undesirable orgies are held.

PEAT MOSS AS A DEODORISER.

DR. D. M. USPENSKI, in a preliminary note in the *Vrach*, describes a number of bacteriological and other observations he has made on a kind of peat moss belonging to the sphagni, which is indigenous in many parts of Russia and Siberia, and which is used with considerable success in the form of coarse powder for disinfecting cesspools and privies in Warsaw, Riga, and other towns. It is found that about four ounces sprinkled over an ordinary stool is sufficient to deodorise and dry it, so that the receptacle can be emptied and cleaned at proper intervals without any unpleasantness arising. This substance seems to have a wonderful power of absorbing moisture, for it was found by experiment that a pound of it which already contained 25 per cent. of water was capable of absorbing no less than seven pounds and a half more water. When added to fæcal matter in the proportion of 10 per cent. by weight, it changes it into an almost dry mass of an earthy appearance, devoid of smell and easy to remove. A hundred pounds of the powdered moss will absorb 1438 litres of ammonia. The dry mass obtained by the action of the moss on fæces, on being analysed by Mr. Miltser, was found to contain from 2·38 to 2·66 per cent. of nitrogen, and from 0·96 to 1·15 per cent. of phosphoric acid, and of course formed a very

valuable manure. The powder as received contained 23·9 per cent. of water and 5·38 per cent. of ash, and without any preliminary drying they absorbed fourteen times their own weight of water. Bacteriological experiments proved that the moss has a great capacity for diminishing micro-organisms of various kinds. If this substance can be easily and cheaply obtained, it would appear to offer advantages over the dry earth we are accustomed to use, and in large towns would doubtless prove very valuable.

PROFESSOR NOTHNAGEL.

A HOLIDAY contributor writes:—"Miraculous is scarcely too strong a description of the escape this illustrious physician had the other night on the Moskow-Smolensk Railway. On the summons of M. Poljakow, manager of the Moscow network, he had gone to a consultation in that city, and, his professional mission over, he had entered a sleeping car on his homeward journey on the night of Aug. 20th. He had barely settled down in bed when he had occasion to leave his *coupé*, and, after making his way along the passage, opened the wrong door and fell out upon the metals. How he alighted without further injury than a slight bruise on one of the temples and another on the foot remains a mystery even to himself. As it was, his position was eminently a critical one. Bareheaded and in the scantiest night gear, he found himself on a dark rainy night on the lonely line—no one in the train, it seems, having been aware of his fall. With great difficulty and discomfort, and in the midst of a storm, he reached the house of the nearest guardian of the line, and was by him accompanied to the Iwanowka station; thence he got by train to Dünaburg, where the station-master gave up to him his clothes and travelling effects, as well as his pocket-book containing more than 10,000 roubles, also left behind him in the carriage. Science and suffering humanity may well congratulate themselves on the special providence that seems to have safeguarded their distinguished votary."

THE SPREAD OF THE TUBERCLE BACILLUS BY FLIES.

IN a communication made to the Académie des Sciences by MM. Spillman and Haushalter, and recorded in *La Semaine Médicale*, the question of the spread of the tubercle bacillus by means of the common house fly is considered. The authors state that they have seen flies enter the spittoons containing the sputum of phthisical patients; they were then caught and placed in a bell jar. On the following day several of these were dead. Examination of the abdominal contents and the excrement of these flies on the inside of the jar showed the presence of many tubercle bacilli. The authors point out the wide dissemination of the disease which may take place in this way, and recommend as a preventive the employment of covers with a small opening.

DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following foreign medical and scientific men are announced:—M. Giraud-Teulon, member of the French Academy of Medicine. He was at first a student in the École Polytechnique and the École d'Application at Metz and afterwards took up the study of medicine. From his admission to the Doctorate in 1848 to his death he occupied himself with investigations connected with medical physics, the mechanism of respiration and locomotion (his views differing greatly from those of M. Marey), the effect of the atmospheric pressure on the serous cavities, and, finally, a large number of questions concerning ophthalmology. He wrote important memoirs on the differences between the arterial and venous vessels in the retina, and the signs of grave affections of nutrition characterised by subsequent lesions of the membranes of the eye and of the lens. He invented several instruments, including a binocular ophthalmoscope.—Dr. Friedrich Fuhrmann *Sanitätsrath* in Gorlitz.—Dr. Victor Friedländer, of Breslau.—Surgeon-General Heinrich Christoph Niese, who succeeded Langenbeck as Staff Surgeon-General of the Schleswig Holstein Army.

A WANT IN MANCHESTER.

A CORRESPONDENT informs us that great inconvenience is experienced by strangers visiting Manchester during the meeting of the British Association from a want of public urinals. This is a real inconvenience in many other places as well as Manchester, and the time has come when provision should be made in this respect for both males and females. We have often advocated this in our pages. At the Section rooms ample provision has been made, but on Sunday and after 3 o'clock on other days these are closed to the members, and this has been severely felt in the absence of a sufficient public provision. The secluded gateways leading to one or other of the great warehouses in which Manchester abounds are, judging from the odour thereabouts, made to supply the want.

REFLEX NEUROSES FROM CONSTIPATION.

BESIDES disturbances of the circulation, and especially palpitation, irregularity of pulse, and vertigo, which may be attributed to excitation of the cardiac branches of the great sympathetic, Kisch believes that rebellious hemicrania often recognises no other cause than constipation. Certain kinds of sciatic neuralgia, and lumbo-abdominal pains, or ovarian aches, and even neuralgiæ of the fifth pair, have been ascribed to habitual constipation. Although Kisch has collected forty-eight cases in which cessation of constipation was followed by relief from diverse and chronic neuralgiæ, we may well question whether intestinal sluggishness was the *causa causans* of the various neuralgiæ. The alteration of even one element cannot be effected without the production of more than one result.

EMPTY HOUSES.

A MEDICAL CORRESPONDENT, writing to the daily press, calls attention to the risks to householders resulting from the evaporation of water from traps, occurring during a period when the house is unoccupied, and states that it has fallen to his lot to see more than one outbreak of sore throat, which he believes is caused by this circumstance. It may be hoped that the usual house cleaning, which necessitates the occupation of the house immediately before the return of its owners, is for them a safeguard; but the subject is well worth the attention of householders, in the interest of caretakers as well as of themselves, and the careful charging of traps and the thorough ventilation of houses are necessary wherever they have been left uninhabited during any period of time.

INFLUENCE OF COMMON SALT ON GASTRIC SECRETION.

DR. REICHMAN describes, in the *Gazeta Lekarski*, his experiments on the effect of the ingestion of chloride of sodium on the secretion of gastric juice. The conclusions he arrives at are that it has not a stimulating action on the secretion, but that it diminishes the acidity of the gastric juice even in solutions containing less than 5 per cent. of the salt. This diminution of the acid reaction of the gastric juice depends chiefly on transudation from the bloodvessels of the mucous membrane of the stomach, and perhaps, to some extent, on an increased secretion of mucus.

THE ILLNESS OF THE CROWN PRINCE.

ON Wednesday last at Balmoral Her Majesty conferred the honour of knighthood on Dr. Morell Mackenzie in recognition of the professional services recently rendered by him to the Crown Prince.

THE MOXON MEMORIAL.

WE are requested to state that the sum at the disposal of the committee of the Moxon Memorial amounts to £605 16*s.* 10*d.*, and that early in October a meeting will be held to determine the proportion in which it is to be assigned to the Royal College of Physicians and to Guy's Hospital, for their respective memorials.

ACCOMMODATION FOR SCARLET FEVER PATIENTS.

IT is well at this moment to remind the public of the admirable accommodation, on moderate terms, to be had at the London Fever Hospital, Liverpool-road. We learn that there are at present forty beds vacant in the institution.

FOREIGN UNIVERSITY INTELLIGENCE.

Dorpat.—Dr. Dragendorff, Professor of Pharmacy, has been elected Corresponding Member of the Belgian Academy of Sciences.

Havana.—The Spanish Government has issued a number of new regulations which will improve the education given in the Cuban capital and assimilate the course of study to that given in Madrid.

Warsaw.—Dr. K. P. Kowalkowski has been appointed Extraordinary Professor of Hygiene.

RETIRED Deputy Surgeon-General J. R. Jackson, I.M.D., was fatally wounded on the 1st inst. while shooting on a Scotch moor. A friend who accompanied him was loading a gun, when it accidentally discharged, and the contents lodged in Dr. Jackson's side, death ensuing in about a quarter of an hour. The deceased, who was fifty-five years of age, leaves a widow and two children.

THE annual report of the Police Committee of the Tweed Commissioners, recently issued, states that this year 9521 diseased salmon, grilse, and trout have been taken out of the river. Professor Greenfield of Edinburgh is, we understand, investigating the nature of the micro-organisms in the river water in connexion with the salmon disease.

DR. BILLROTH continues to make satisfactory progress towards complete recovery. He is now able to ascend the Schafberg on foot (some 6500 feet above the sea level, and commanding "le plus beau panorama d'Allemagne"), and to return, also on foot, to his pleasant quarters on the Wolfgang-See, without feeling over-tired.

IT has been decided by the Brighton and Hove Intercepting and Outfall Sewers Board that, subject to the consent of the Brighton Town Council and the Hove Commissioners, a sum of £9000 shall be spent on the extension of the outlet of the intercepting sewer, so as to carry it 500 feet further seawards.

THE Office of the Army Medical Department has been removed to No. 2, Victoria-street, Westminster, S.W.

IT is rumoured that the Emperor of Austria intends to confer a decoration of a high class upon M. Pasteur.

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

(FROM OUR SPECIAL CORRESPONDENTS.)

Per Anglo-American Telegraph Company.

ON Monday, the 5th inst., the ninth International Medical Congress opened under most favourable auspices at Albaugh's Opera House, Washington. The building was crowded with members of the medical profession from all parts of the world. A short speech of welcome was delivered by President Cleveland, who at the close of his address was rewarded with enthusiastic applause. After the election of a president and officers of the Congress, Mr. Bayard, Secretary of State, gave an eloquent address, in the course of which he pointed out that the development of America was due to the non-interference of the Government with natural advancement in this democratic Republic. The brotherhood of science well realised the importance of such non-interference, none more than practitioners of medicine and surgery. He welcomed the members of the Congress as the guardians of the health of nations. In medicine he recognised the noblest school of human usefulness; in the presence of such development as it is at present making, he recognised the means of cure, of the amelioration of suffering, and the prolongation of human existence. In the endeavour to discover the true principles which make life worth living, one must, he said, acknowledge the debt owing to those whose chief reward is the still small voice of approving conscience. The following responded to Mr. Bayard's address:—Dr. Lloyd, Deputy Inspector-General of Hospitals and Fleets, for Great Britain; Dr. Lefort for France, Senator Semmola for Italy, Dr. Unna for Germany, and Dr. Reyber for Russia.

Dr. Davis (Chicago), President of the Congress, then delivered his address, which is printed in full in another part of our present issue.

Dr. Alvarado, representing the Mexican Government, then read a paper on the Pathogenesis of Yellow Fever.

Professor Geikil (Toronto) read a paper on Pneumonia, in which he described pneumonia as being met with in all parts of Canada, no district being exempt from the disease.

During the delivery of the President's address and the reading of these papers there was a large audience, and at the close an animated discussion, in which many of those present joined, took place.

In the Section of *Surgery*, the President, Dr. Briggs of Nashville, delivered his address, in the course of which he entered at length into Modern Surgery of the Abdomen with Antiseptic Appliances.

Dr. Parker (Chicago) read a paper on the Study of Gunshot Wounds of the Intestines. He discussed and showed examples of many cases in which after death it was conclusively proved that an abdominal operation would have saved the life of the sufferer, and concluded by earnestly advocating, as the result of his experience, the early performance of operation in cases of such a nature.

Dr. Senn read a paper on Experimental Intestinal Surgery.

In the Section of *Obstetrics*, the President (Dr. Miller, Chicago) delivered an address, the three chief topics upon which he touched being Craniotomy, the cultivation of skill in Diagnosing Extra-uterine Pregnancy, and the rendering of the Puerperal State Aseptic without danger from the use of toxic substances. He expressed his belief that in future craniotomy would only be exercised in most unusual circumstances, and that the life of the child would be saved with but little danger to the mother. He advocated the destruction of the fœtus by electricity in extra-uterine fœtation to prevent rupture.

A paper on the Value of Contractions of the Uterus in Diagnosing Pregnancy, by Dr. Braxton Hicks (London), was, in the author's absence, read by Professor Earle, Chicago. During the whole period of pregnancy, contractions, Dr. Hicks stated, occur at short intervals, and as they can be felt by palpation, these contractions are useful as a means of distinguishing tumours from pregnancy. It is physiologically important to empty the uterine veins, as constant relations exist between the carbonised blood in the veins and the contractions and movements of the fœtus.—

In the discussion which followed, Professor Simpson, of Edinburgh, confirmed the importance of these contractions as an aid in the diagnosis of pregnancy. Professor King and Professor Charpentier, of Paris, also took part.

Dr. MacCullum (Montreal) read a paper on Vicarious Menstruation.

Professor Lazarewitch (St. Petersburg) and Dr. Stewart (Philadelphia) showed improved forceps, which were criticised severely by Professor Opie, of Boston.

In the Section of *Public and International Hygiene*, the President, Dr. Joseph Jones, of New Orleans, read a paper on Public Hygiene, in which he sketched the progress of sanitation, and discussed modern sanitation in its threefold aspect—viz., domestic, public, and international. He indicated the importance of the duty of personal and domestic hygiene, the duty of municipal and other health authorities, and, lastly, the importance of nations comparing their methods of sanitation, and informing one another on the principles of hygiene.

The Section of *Vital Statistics* was well attended, and the address much applauded.

In the Section of *Diseases of Children*, papers were read by the President, Dr. Smith, of New York, and by Dr. Jules Simon, of Paris (who was not present in person), on Cerebral Irritation in Children. He referred to forms not due to heredity, congenital syphilis, &c., but to insanitary and exciting surroundings.

Professor Sayre (New York) read a paper on the Deleterious Results of Narrow Prepuce and Adhesions.

Dr. De Saint-Germain (Paris) in a short paper advocated igni-puncture of the tonsils by cautery in place of tonsillotomy. He recommended a puncture of three-eighths of an inch repeated each week, and stated that such procedure would almost invariably bring about a cure in a month.

Most of the eighteen Sections are well attended, especially the Gynæcological and Pathological ones.

In the *Ophthalmological* Section good discussions took place on a paper by Dr. Mooren (Germany) on Eye Troubles: their relation to Occipital Disease.

A paper was read by Dr. Connor (Detroit) on Hot Water Treatment in Eye Diseases, the discussion on which brought out various methods of applying heat to the eye.—Dr. Thompson (Indianapolis) advocated slippery elm poultice; Dr. Keyser, steam; Mr. Henry Power (London), dry meal and dry hops, but never steam.—Dr. Abadie (Paris) said he had a very poor opinion of hot water or heat unless there was much pain. In his practice he relied on more active medicaments, such as iodoform, morphia, and leeches, combined with judicious internal treatment.

In the evening a large *soirée* took place in the Pension Building. Upwards of six thousand persons were present, the admission being entirely unrestricted. The decorations in the great hall were very pretty. Much bunting was displayed, the American flag predominating; flags of all nations were used.

A sumptuous banquet by American medical editors to foreign editors and distinguished guests was given at Rigg's House. One hundred and fifty covers were laid. The decorations were superb, no less than 3000 roses being used in the floral ornamentation.

On the 6th inst. a general address by Dr. Austin Flint (New York) was delivered on Fever: its Causes, Mechanism, and Rational Treatment. There was a large audience, and the Opera House was well filled. Dr. Flint observed that fevers were due to a certain specific cause, probably micro-organisms. As we were not able to destroy these, we must be content to moderate their action and sustain the vital powers. The production of animal heat involves oxidation of part of the organism, or of articles of food represented by formation and discharge of nitrogenised matters. As regards its relations to general nutrition and the production of animal heat, water formed in the body by the process of oxidation should be considered excrementitious. Fever might be defined as a condition of excessive production of heat involving defective nutrition or inanition, an excessive production and discharge of nitrogenical excrementitious matters and carbonic acid with waste and degeneration of tissues, and partial or complete suppression of production and discharge of water. The ataxic symptoms in fever, apart from complications and accidents, are proportionate to the elevation of temperature. These conditions must be ameliorated by treatment chiefly directed towards the reduction of temperature, as by the abstraction of heat by cold or the use of antipyretics, which without affecting the special cause improves the symptoms. During the period of inanition the consumption of the tissues in the production of animal heat is in a great measure saved by the increased production and excretion of water in fever. The effects of inanition are manifested by the destruction and degeneration of tissues, which are intensified by deficient formation and excretion of water. Alimentation is difficult mainly on account of the derangement of the digestive organs. This may be met by the administration of food easily digested or already partially digested. Hydro-carbons are important factors in the production of animal heat. Alcohol is promptly oxidised, and is capable of absorption without digestion. So far as it is oxidised in the body, alcohol in fevers supplies matter consumed in the production of heat, and saves destruction of tissue. The introduction of matter thus consumed diminishes pyrexia. As oxidative alcohol involves the formation of water and limits tissue destruction, its action tends to restore normal heat production processes. The aim of treatment is, Dr. Flint observed, to limit and reduce pyrexia by direct or indirect means, to limit the destruction of tissue and provide for its repair, and by alimentation to provide matters for consumption in the abnormal production of heat, and thus place the system in the most favourable conditions for recuperation.

In the evening a reception was held by the President of the United States and Mrs. Cleveland at the White House from 8 to 10. The Corcoran Art Museum was also open for members of the Congress and ladies. The scene was an animated one, the people and costumes being most diverse.

The Section of *Medicine* was chiefly occupied in discussing the question of vaccination.

Dr. Korosi (Buda Pesth) read a paper on the Preventive Power of Vaccination, and combated all objections from statistics, &c., from his own observations.

Dr. Whitmarsh (England) read a paper on Vaccination and Pasteur's Treatment, which gave rise to an animated discussion, in the course of which Dr. Leale deprecated alarming patients who had been bitten.—Dr. Welch gave a strong argument in support of vaccination by the comparative immunity from the disease enjoyed by hospital *employés*, and the fact that there are few vaccinated patients —under 5 per cent.—received into small-pox hospitals, and these rarely died. The danger of syphilis was, he remarked, remote, and erysipelas usually arose from carelessness.

In the *Surgical* Section a paper was read by Dr. Homans (Boston) on 384 Laparotomies for various diseases which he had met in his own practice. Ventral hernia occurred in 10 per cent. of the cases operated upon under the spray and bichloride of mercury. The fatal cases often resulted from trifling faults of the operator. The removal of the ovaries and tubes without objective symptoms was most reprehensible. Dr. Matthews (Louisville), in a paper entitled "When is Colotomy Justifiable?" said that the operation should not be performed when the stricture is three inches and a half above the anus, nor for cancer of the lower bowel, nor for tumours which closed the bowel, nor for congenital occlusion of the rectum when the rectum is occluded above three inches up. Colotomy for cancer does not prolong life. In the discussion which followed, Dr. Benton (England), Dr. O'Neal, Dr. Anthony, and others joined. The discussion showed most members to be in favour of operation in malignant disease for the relief of pain.

In the Section on *Diseases of Children*, papers were read on the Milk Supply of Cities, by Dr. Edson (New York); on the Nutrition of Infants, by Professor Leeds (Hoboken); and on the Use of Cows' Milk for Infants, by Professor Vaughan (Michigan). Professor Vaughan's paper was a most interesting one, and provoked much discussion. He said that cows' milk for infants must be from healthy animals, and must be well preserved from putrefaction both before and after it is taken into the child's stomach, a thing which is impossible if the infant is over-fed or breathing a polluted atmosphere.

Several papers on Intubation of the Larynx were also read. One by Dr. O'Dwyer (New York) was of considerable length. Comparing the results of tracheotomy *versus* intubation, he said that the question is—Which can be performed or permitted? With most medical men tracheotomy was never popular, and it is performed only in a minority of croupous cases, owing to the repugnance of the patient's friends. It is not done in one-fourth of the fatal cases in New York. The true mortality after tracheotomy is not known, as many fatal cases are never published. He concluded by strongly advocating intubation.

Dr. Waxham also read a paper on the same subject, in which he strongly endorsed the same views.

This Section was a very popular one, and the papers read in it and the accompanying discussions have excited considerable interest.

In the Section of *Obstetrics*, a paper was read by Professor Cameron (Montreal) on the Influence of Leukæmia in Pregnancy. There were, he said, but few cases reported where leukæmia occurred during pregnancy, and none where a leukæmic woman became pregnant. He cited a case of a lukæmic woman who, becoming pregnant, produced children with leukæmic tendencies.

A paper was read by Professor Charpentier (Paris) on Uræmia. Injections of urea into pregnant animals, he observed, caused the death of the fœtus prior to that of the parent, and from this it may be concluded that the fœtus eliminates urea more slowly than the mother. Professor Lusk said that the paper threw light on an important subject, which it was desirable should be settled. He doubted the importance of urea, because cases were frequently met with in which an excess of urea was accompanied either by the death of the fœtus or the occurrence of dangerous symptoms in the mother. Dr. Maccullum (Montreal) pointed out the desirability of inducing premature labour in cases of albuminuria, if urea was dangerous to the fœtus.

A paper was read by Professor Simpson (Edinburgh) on Uniformity in Obstetrical Nomenclature. The communication embodied the results of the inquiries made by the committee appointed at the London International Congress.

Professor Lusk read a paper on the Prognosis of Cæsarean Section. He condemned craniotomy whilst the child was living and viable, and advocated early section by skilled operators.

A paper on the same subject was also contributed by Dr. Saenger (Leipsic).

In the Section on *Hygiene* a paper was read by Dr. Day (Batonrouge) on the Effects of an Overflow of the Mississipi. It contained the result of inquiries from 500 physicians in the South, which showed that, as a rule, river overflows were injurious to the public health, the evil effects being minimised by good drainage.

A paper was read by Dr. Grant Bey (Cairo) on the Hygiene of Modern Egypt.

Dr. Leighton (Newhaven), in a paper on the Place of Sanitary Science in Education, advocated a more definite position in teaching schools, colleges, &c., for the study of popular literature, and assistance from the press and pulpit.

The *Military* and *Ophthalmic* Sections were very busy. In the former papers on Gunshot Wounds were read by Drs. Hyde and James, which led to an animated discussion on explosive bullets. The United States is not yet, it seems, in accord with Europe on this question, but no such bullets have actually been used since 1863. Dr. Smith wished to bring the subject under the notice of the Congress and the President of the United States.

Surgeon-Major Langridge read a paper on Sunstroke. He cited his Indian experiences, and described how soldiers could best withstand heat. Drs. Marston, Goodman, Sherwood, Collins, and others, took part in the discussion. A paper by Sir Thomas Longmore, on Field Dressings, was read by Dr. Marston.

In the *Ophthalmological* Section, Mr. H. Power (England) read a paper on Microbes in the Development of Eye Diseases, in which he pointed out that whilst it was easy to recognise pathogenic cocci and prevent their entrance, it was difficult to destroy them when once in. He advocated the use of boric acid. Many members took part in the discussion which followed.

Professor Mooren (Dusseldorf) contributed a paper on the Methods of Extraction of Cataract. He had had 5000 extractions, and was of opinion that iridectomy should be done always at the time of operation.

Dr. Galezowski (Paris) also read a paper on the same subject.

On the 7th inst. an unpleasant incident occurred between two Italian delegates. Professor Durante claimed to be sent by Government, but had to give place to Dr. Semmola, who is a senator in the Italian Parliament. The affair was, however, satisfactorily adjusted through the kindly and opportune mediation of Dr. Hamilton. At the conclusion of Dr. Semmola's address quite a dramatic scene took place on the stage of the Opera House, when the two delegates publicly shook hands. Dr. Semmola's address was delivered with fine effect in French. He said that the object of medicine was to cure disease; if there were no ills there would be no doctors. To cure diseases we must know the causes which produced them, the external causes visible and tangible, and we must discover the internal ones. It was the aim of medical science to solve this problem, and for its solution we must employ the true method for solving all problems—viz., the experimental method. Before the experimental method was known doctors lost themselves in fantastic speculations, and it was only after the discovery of the experimental method that serious study began its marvellous progress. Physiology made light of experimental methods when studied under morbid condition, but doctors wanted to hurry on because they wished to cure the sick; but it is impossible to apply the experimental method and at the same time to go fast. If medicine be a science, we must not leave the experimental method, otherwise, like the labours of Sisyphus, there can be nothing but renovations, errors, loss of time. Some errors are repeated without knowing it. The chief error of to-day is that of bacteriology being considered the key to all pathology. Bacteriology should be studied because it teaches what exists in the microscopical world. This world is filled with enemies to mankind. We drink millions of microbes in our water, we respire millions in the air we inhale. Sometimes these microbes affect us, sometimes killing in a few hours. It is in cases like this, with our duty to cure the sick under our care, that we should go slowly; because if before there has been a careful demonstration we attempt to deduce a remedy, we are in danger of doing harm instead of curing. This is the great harm modern bacteriology does doctors. It has at once been concluded that microbes are the cause of disease, whereas in many cases microbes are but the effects of disease. We ought to reproduce the disease artificially by means of microbes before definitely concluding that they are the cause. The experiments which have been made do not give satisfactory results, except in the instances of carbuncle and tuberculosis. To conclude hastily that this or that microbe existing in such and such disease is the cause of it is to ignore the experimental method of demonstration. In this case of the experimental method the demands would be complicated, because not only have we to know that microbes existed, but we would have to know what the condition of the blood was which is necessary for the culture of that particular microbe. Science tells us that for the present the problem cannot be solved. We know very little of the normal condition of the blood. Biological chemistry is still in its infancy; man cannot separate himself from these millions of parasites among whom he lives. Bacteriology may guide us in the cure of disease, but we must not only learn all that is possible of the microbe itself; but, more important than all, we must ascertain all that is possible respecting the conditions of the field of culture. But science of the present day knows nothing of the conditions of these fields of culture in living organisms, and it is thus evident that in its present condition bacteriology cannot guide us in the treatment of internal diseases. The followers of the older school of medicine used to talk of organic dispositions and tendencies to such and such diseases. This language has no meaning. When bacteriology speaks of a need for special fields of culture, it says the same thing, because we do not know of what the field of culture consists; therefore it cannot be called a science, because science is never composed of unknown things. It goes from the known to the unknown. Science must indicate perfectly the conditions of the phenomena of disease, and then only can we find the remedy to correspond. Medicine must advance like physiology, chemistry, and physics, and proceed by way of experiments and demonstrated facts. Look at the progress made by physics and chemistry as applied to industries. Look at the telegraph, telephone, steam-engine, photograph, &c. The experiments which led to these results were not composed of unknown things and hypotheses, but were made up of a chain of experiments, each link of which was perfectly forged and welded. Thus there was no weak link in the chain, and phenomena reduced by the laws of science at man's disposal can be reproduced at his pleasure. But man does not command nature; he learns her laws and respects them. If he supposes fact instead of demonstrating it, the phenomena are not reproduced when he resorts to hypotheses. The power of man disappears if nature's laws are not respected; the telephone does not work, the electric light does not flash, the steam-engine stops. The doctor,

then, is the only one who pretends to become the master of nature without knowing her laws." Referring, again, to the failure of medicine to follow up a discovery in a scientific way, with thorough research and demonstration, and to its tendency to accept conclusions quickly, Professor Semmola said modern bacteriology may lead the way to a most fruitful field of inquiry in the future, but at present it produced no practical results in the cure of internal diseases. It has not been demonstrated in what measure microbes are the cause of diseases, and he therefore hoped that the younger generation would continue experimental researches with the thoroughness of method which the great masters have transmitted to us; they must renounce preconceived ideas of medicine, and interrogate nature without torturing her; scientific independence must be preserved, and they must not proceed without measuring their steps. He trusted that his desire for scientific independence in such researches would be echoed in this land of independence. At the conclusion of the address, a vote of thanks to Dr. Semmola was supported by several delegates on the stage, who made very complimentary reference to the value and interest of the address.

Up to Wednesday at noon the number of members registered at the offices of the Congress was 2600. About 300 of these are foreign, all European countries being represented, France, Germany, Russia, Italy, the Balkan provinces, &c. England sends a large contingent—Seaton, Marston, Power, Langdon Down, Isambard Owen, Pavy, Savage, West, G. Hewitt (London), Simpson (Edinburgh), Chavasse (Birmingham), L. Roberts (Manchester), Tomkins (Leicester), Tate (Nottingham), Taylor (Liverpool), Cunningham (Cambridge), and others. The total number of members present exceeds the record of former Congresses, but the bearers of many well-known European names are conspicuous by their absence, as also are some Americans. The meeting is an undoubted success, but many of the leading men, especially those residing in New York, are absent. Much hospitality is shown to foreigners by the citizens—garden parties, banquets, receptions, &c. Visitors are to be taken to Niagara free of expense. On the 8th inst. a banquet is to be given by Washington city. The weather is glorious, and the heat moderate. The organisation of the Congress is scarcely perfect in some respects, and many lessons might have been learned from former similar meetings. The United States Congress is not sitting, consequently many of the leading citizens are away for the summer. Their absence has a tendency to limit private hospitality, but much difficulty has been experienced even now in the dull season of the year to provide accommodation for the influx of some 4000 visitors from the most remote parts of America, South, North, Canada, &c. Washington is a beautiful city, and all the sights, Government buildings, &c., are open for inspection by members of the Congress.

THE INTERNATIONAL CONGRESS OF HYGIENE.

THE final touches have now been given to the programme of this gathering. The opening ceremony will take place on September 26th, at 11 A.M., in the great hall of the Musikverein, when the Crown Prince Rudolf, "the protector of the Congress," will bid its members welcome in the name of the Kaiser. On the evening of the 28th, again in the name of the Kaiser, the members will be formally received in the Hofburg. Their number is now 1410, representing, as we have already shown, nearly every civilised state in the world, and every considerable association concerned directly or remotely in public hygiene. This number is likely to be still further increased, as the Congress extends its hospitality up to the close of its sittings, a hospitality which includes the gift of the very valuable publications dealing with all the topics to be discussed. The Vienna town council has shown itself fully alive to the importance of the occasion, and is taking every care that no former seat of Congress, neither Paris, nor Brussels, nor Geneva, nor for that matter the best traditions of the merchant princes of the Venetian and Florentine Republics, shall be quoted to their disadvantage. The town hall lends itself, as few such buildings can, to festive celebrations and to the worthy reception of distinguished guests. The volunteer Rettungsgesellschaft (Preservation Society) of the city will exhibit on the Trabrennplatz (racecourse) their preserving apparatus and sanitary *matériel*. The liberality of the various guilds and mercantile firms, to say nothing of neighbouring landed proprietors, in contributing to the funds of the Congress, has been munificent. The surplus, after the defrayal of all expenses, will be applied, as already stated, to the erection of an institution for perfecting hygienic manufacture in all its aspects, for which suggestions and criticisms are freely invited from members of the Congress.

As we write, the announcement reaches us that, by command of the Kaiser, a gala representation, in honour of the members of the Congress, will be enacted in the Court Opera House, which for that occasion will be placed at their special disposition. The performance will take place on Tuesday, Sept. 27th, and will conclude, appropriately, with the ballet of "Excelsior."

THEATRE FIRES.

THE Home Secretary is reported to have said on Tuesday night, in answer to Dr. Tanner: "Outside the metropolitan area there is no power in any Government Department or in any local authority to inspect theatres or insist on structural alterations, except as a condition of licensing the theatre in the first instance, except possibly under local Acts. Within the metropolitan area the Metropolitan Board of Works have sufficient power to enforce any precautions which may be necessary, and have largely acted on those powers."

In this connexion the following extracts from the last report of the Metropolitan Board will be found of interest:—

"The Board's jurisdiction over new theatres, and over music-halls containing an area for the accommodation of the public of not less than 500 square feet, is defined by the 12th section of the Metropolis Management and Building Acts Amendment Act, 1878, which prohibits the opening of any such place of public entertainment without a certificate from the Board to the effect that it was, at the time of its completion, in accordance with the regulations which the Board was empowered by the Act to make for the protection from fire of these buildings. The regulations now in force were made on May 2nd, 1879. The applicant for a certificate is required, in the first instance, to submit drawings of the proposed new building for the inspection of the Board, and, in the event of these being found satisfactory, they are conditionally approved; but the sealed certificate is not issued until the building has been completed, in accordance with the approved drawings, to the satisfaction of the Board.

"The 11th section of the Metropolis Management and Building Acts Amendment Act of 1878 gives the Board a limited jurisdiction over the theatres and larger music-halls which were in use at the passing of the Act, on July 22nd, 1878. The Board can take action with respect to any such building when it appears that the place is so defective in its structure that special danger from fire may result to the public frequenting the same, and that the structural defects can be remedied at a moderate expenditure. The consent of the Lord Chamberlain or of the Secretary of State, as the case may be, must be obtained before any notice can be served by the Board upon the owner. Having obtained this consent, the Board may serve the owner with notice requiring him to make such alterations in the building as may be necessary to remedy the defects within a reasonable time, to be mentioned in the notice. In default of compliance with the notice, the owner becomes liable to a penalty of £50, and a continuing penalty of £5 a day. Within fourteen days of the receipt of the notice the owner may appeal to an arbitrator, to be appointed by the First Commissioner of Works. The arbitrator, whose decision is final, may make such order as he thinks fit, and direct by whom, and in what proportion, the costs of the arbitration are to be paid.

"The theatres within the jurisdiction of the Board, which were inspected by the chief officer of the fire brigade in order to ascertain their actual condition in respect of security from fire, were forty-one in number; and it was stated in the last report that the whole of these, with the exception of those that had been closed, had been put into a satisfactory structural condition."

This is all very well so far as it goes, but if peril arises, as seems to have been the case in the sad fatality at Exeter, from the improper disposition of scenery not at the moment in use, how does an annual inspection by an officer of the fire brigade afford any protection against this risk?

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5166 births and 3348 deaths were registered during the week ending September 3rd. The annual rate of mortality in these towns, which had declined from 23·7 to 23·3 per 1000 in the preceding three weeks, further fell last week to 18·9. During the first nine weeks of the current quarter the death-rate in these towns averaged 21·7 per 1000, and was 0·5 above the mean rate in the corresponding periods of the ten years 1877-86. The lowest rates in these towns last week were 13·3 in Huddersfield, 15·6 in Bristol, 16·6 in London, and 17·2 in Derby. The rates in the other towns ranged upwards to 25·0 in Manchester, 25·8 in Wolverhampton, 25·9 in Blackburn, and 29·1 in Preston. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had declined in the preceding five weeks from 1301 to 925, further fell last week to 792; they included 500 from diarrhœa, 84 from scarlet fever, 76 from whooping-cough, 49 from measles, 47 from "fever" (principally enteric), 31 from diphtheria, and 5 from small-pox. These diseases caused the lowest death-rates last week in Bristol and Huddersfield, and the highest in Plymouth, Wolverhampton, and Oldham. Diarrhœa caused the greatest mortality in Brighton, Plymouth, Bolton, and Wolverhampton; measles in Birkenhead and Oldham; scarlet fever in Blackburn, Bolton, and Oldham; and "fever" in Leicester, Oldham, and Portsmouth. Of the 31 deaths from diphtheria in the twenty-eight towns, 20 occurred in London, 3 in Newcastle-upon-Tyne, and 2 in Hull. Small-pox caused 5 deaths in Sheffield, but not one in Greater London or in any of the twenty-six other large provincial towns. Only 3 cases of small-pox were under treatment on Saturday last in the Metropolitan Asylum hospitals receiving cases of this disease, of which one was admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 178 and 160 in the preceding two weeks, rose again last week to 169, and were within 1 of the corrected average. The causes of 62, or 1·9 per cent., of the deaths in the twenty-eight towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Wolverhampton, Bradford, Sunderland, and in four other smaller towns. The largest proportions of uncertified deaths were recorded in Preston, Halifax, and Oldham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·6 and 18·7 per 1000 in the preceding two weeks, declined again to 18·5 in the week ending September 3rd; this rate was slightly below the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 15·1 and 16·2 in Leith and Perth, to 21·4 in Dundee and 26·5 in Paisley. The 463 deaths in the eight towns last week were within 3 of the number in the preceding week, and included 39 which were referred to diarrhœa, 31 to whooping-cough, 18 to scarlet fever, 12 to "fever," 2 to diphtheria, and not one either to measles or small-pox; in all, 102 deaths resulted from these principal zymotic diseases, against 87 and 111 in the preceding two weeks. These 102 deaths were equal to an annual rate of 4·1 per 1000, which was 0·4 below the mean rate from the same diseases last week in the twenty-eight English towns. The fatal cases of diarrhœa, which had increased from 28 to 53 in the previous four weeks, declined to 39 last week, of which 9 occurred in Glasgow, 8 in Edinburgh, and 6 in Paisley. The deaths referred to whooping-cough, which had been 24 and 26 in the preceding two weeks, further rose last week to 31, and included 10 in Glasgow, 8 in Dundee, and 4 in Edinburgh. The 18 fatal cases of scarlet fever showed a further increase upon recent weekly numbers; 8 occurred in Glasgow, 4 in Dundee, and 3 in Edinburgh. The 12 deaths referred to "fever," exceeded by 8 the number in the preceding week, and included 5 in Glasgow and in Dundee. Of the 2 fatal cases of diphtheria, 1 occurred in Greenock and 1 in Dundee. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 69 and 73 in the preceding two weeks, were 71 last week, and exceeded by 8 the number returned in the corresponding week of last year. The causes of 67, or more than 14 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 35·5 and 29·3 per 1000 in the preceding two weeks, rose again to 37·5 in the week ending September 3rd, and exceeded the rate recorded in any week of the present year. During the first nine weeks of the current quarter the death-rate in the city averaged 31·0 per 1000, the mean rate during the same period being but 21·4 in London and 18·6 in Edinburgh. The 254 deaths in Dublin last week showed an increase of 56 upon the number returned in the preceding week; they included 31 which were referred to diarrhœa, 23 to measles, 5 to "fever" (typhus, enteric, or simple), 4 to whooping-cough, 2 to scarlet fever, and not one either to small-pox or diphtheria. Thus the deaths resulting from these principal zymotic diseases, which had been 78 and 48 in the preceding two weeks, rose again last week to 65; they were equal to an annual rate of 9·6 per 1000, the rate from the same diseases being 3·4 both in London and in Edinburgh. The fatal cases of diarrhœa, which had been 27 and 13 in the previous two weeks, rose again to 23 last week. The deaths referred to measles, which had been 39 and 30 in the preceding two weeks, were 31 last week. The fatal cases of "fever" exceeded those recorded in any recent week, and the deaths referred to whooping-cough and to scarlet fever also showed an increase. The deaths of infants and of elderly persons exceeded those returned in the preceding week. Two inquest cases and 3 deaths from violence were registered; and 57, or nearly one-fourth, of the deaths occurred in public institutions. The causes of 43, or nearly 17 per cent., of the deaths registered during the week were uncertified.

THE SERVICES.

WAR OFFICE.—Army Medical Staff: The undermentioned Surgeons-Major retire on retired pay with the honorary rank of Brigade Surgeon (dated August 31st, 1887):—James O'Reilly, M.B., and Jerome William Morgan. The undermentioned Surgeons on probation to be Surgeons (dated July 27th, 1887):—Henry Ernest Hill Smith, Wm. Perceval Gore Graham, M.B., George Forbes Alexander, M.B., Charles Stuart Spong, William Boog Leishman, M.B., Edmund McNeill Woods, M.B., James Thomson, M.B., Gerald Thos. Rawnsley, Charles William Reilly, Ernest Carrick Freeman, John Ernest Trask, William Jones Crofton, M.B., Norman Hay Forbes, Alfred Percy Blenkinsop, John Paterson, M.B., Vesey Henry William Davoren, Alfred Wright, Robert Jas. Copeland, M.B., John Girvin, Anthony John Luther, Harold Samuel Peeke, Alfred Latour Borradaile, M.B., Rich. Henry Smyth, M.B., Thomas Birt, and William Hallaran, M.P.

ADMIRALTY.—The following qualified candidates for the Naval Medical Service have been appointed to be Surgeons in Her Majesty's Fleet:—James Bradley, M.D., Geo. Hewlett, M.B., George Alexander Waters, M.D., William Gordon Stott, M.B., Charles Sharman Woodwright, Michael O'Brien, M.D., Jonathan Shand, M.B., and William Arthur Whitelegge, B.A., M.D. (dated Aug. 17th, 1887).

The following appointments have been made:—Fleet Surgeon N. Connolly, to the *Turquoise* (dated Aug. 16th, 1887); Staff Surgeon A. R. Joyce, to the *Hercules* (dated Aug. 16th, 1887); Surgeon J. A. Beattie, to the *Turquoise;* Surgeon H. F. Kiewitz, to the *Ranger;* Surgeon J. E. Penn, to the *Vernon;* Surgeon G. D. Treu-Roper, to the *Jackal;* Surgeon A. W. M'Leod, to the *Duncan;* and Surgeon W. G. K. Barnes, to the *Orontes* (all dated Aug. 16th, 1887).

ARTILLERY VOLUNTEERS.—1st Volunteer (Sussex) Brigade, Cinque Ports Division, Royal Artillery: Henry Algernon Hodson, Gent., to be Acting Surgeon (dated Aug. 27th, 1887) 1st Volunteer (Hampshire) Brigade, Southern Division, Royal Artillery: Ernest Frederic Eliot, Gent., to be Acting Surgeon (dated Sept. 3rd, 1887).—2nd Northumberland (the Percy): Acting Surgeon J. H. Davidson, M.B, resigns his appointment (dated Sept. 3rd, 1887).

RIFLE VOLUNTEERS.—1st Volunteer Battalion, the King's Own (Royal Lancaster Regiment): Acting Surgeon J. Murray, M.B., is appointed Surgeon (dated Aug. 27th, 1887).

1st Dorsetshire: Honorary Assistant Surgeon A. Emson resigns his commission (dated Aug. 27th, 1887).—2nd Volunteer Battalion, the Lincolnshire Regiment: Acting Surgeon J. P. Stewart, M.B., resigns his appointment (dated Sept. 3rd, 1887).

THE VOLUNTEER MEDICAL STAFF CORPS.—The Maidstone Division: The transfer of Surgeon and Honorary Surgeon-Major D. H. Monckton, which was notified in our issue of May 7th, 1887, to bear date April 1st, 1887, and not as therein stated.

Correspondence.

"Audi alteram partem."

PAIN AND ITS INTERPRETATION.

To the Editors of THE LANCET.

SIRS,—May I presume on your courtesy and space for a brief retort? I can assure Mr. Gillies I was not thinking of panegyrics in provincial "weeklies" when I said "universal experience and common sense" were against his contentions, and I am content to appeal from his to the more impartial judgment of the readers of THE LANCET as to our respective "methods." I have re-read Mr. Gillies' original article, and I adhere to my statement that he had not therein excepted cancer from his sweeping assertions as to the "eminently merciful" character of pain. It would be interesting to take the case of the travails of childbirth, and see how the rival theories supported respectively by Mr. Gillies and myself would meet that difficulty. Is pain "eminently merciful" there? Why, the theory of individual compensation—or, as Mr. Gillies finds such consolation in the *Daily News* phraseology, shall I say the "blessing in disguise theory"?—will not hold water. Evolution, on the other hand, is ready with an explanation. Man has not gained the upright posture and his cerebral development without paying heavily for these distinctions. These two factors are responsible for most, if not all, of the obstetric difficulties which woman experiences over and above the normal pains of parturition (if such there be). Evolution tells us we are but parts of a plan, and individual suffering is lost in the grandeur of the whole. If "*pain never comes where it can serve no good purpose*," what daring presumption it must be to attempt to abolish that much-disguised blessing by the use of anæsthetics! But Mr. Gillies is satisfied that all is well, every seeming exception can be disposed of, and he is not afraid that anything determined right for the individual shall be found wrong for the whole. Such optimism is refreshing, but in logic such reasoning is known as *petitio principii*, and in philosophy such assertions imply a familiarity with the intentions of Omniscience to which I dare not pretend. Glorying in teleological implications, Mr. Gillies pays me the greatest compliment he can when he says "he did not understand my rendering of the matter."

I am, Sirs, yours faithfully,
W. J. COLLINS, M.S., M.D., B.Sc. Lond.

Albert-terrace, Gloucester-gate, Aug. 28th, 1887.

To the Editors of THE LANCET.

SIRS,—I have read Mr. Gillies' "Interpretation of Pain" and Dr. Collins's criticism thereon very greedily, for "pain" is an all-engrossing subject. No one familiar with the doctrine of evolution and the rudiments of mental philosophy can fail, if he have thought the matter out for himself, to agree with Dr. Collins' critical remarks. Mr. Gillies argues for the universal beneficence of pain, but, by his acknowledged inability to follow Dr. Collins when the latter gentleman points out that the capacity for pain has very largely evolved by a survival of the fittest, Mr. Gillies foregoes what is perhaps the strongest argument in favour of his view. It is possible that pain is no necessary ingredient of mind, any more, for instance, than sight is; but whether or not (and the matter is too involved to be here discussed), there is no doubt that the capacity for pain has largely evolved by natural selection. For instance, an animal which is very painfully affected by the operation of an injurious agent is more likely to shun the same and to survive than one that is less painfully affected by it; and thus we see how by accumulation the capacity for pain has grown, and how, moreover, it has come to be a most potent weapon against evil. If by grasping with his hand a burning object a child experienced a sensation akin to that obtained by sucking a sweetmeat, a host of children would be lured on to destruction; and, indeed, we have only to look around to see how capable is pain to ward off evil. It is a common observation that delicate, hyperæsthetic people often reach a very ripe age, so carefully does their hyperæstheticism lead them to avoid injurious influences; while, on the other hand, strong and vigorous individuals are frequently prematurely cut off owing to their callousness of pain. Now, whatever evolves in an individual on the principle of natural selection must be beneficial to that individual. Therefore pain must be beneficial. But I fear we cannot say of it that it is an unmixed blessing. Viewed from a utilitarian point of view, it is decidedly imperfect, and it behoves us, as practical medical men, to know in what respect. Were pain perfect in the above sense it would have to fulfil the following conditions: It should always occur upon the first operation of an injurious agent, and should cease immediately upon its removal, or when some other useful purpose—e.g., rest—has been effected. Now, pain does not universally fulfil these conditions. It errs both by defect and by excess: for, on the one hand, it does not always occur when it can be of use, either not occurring at all or too late; and on the other hand, it arises when it can be of no use—nay, very often when it is positively harmful. It is impossible to develop these two propositions adequately in this place, for I am compelled to be very brief. Concerning the first kind of imperfection: Pain is not present in noma, nor (very often) in hydatid and several other disorders. In many diseases, though of use when it *does* come, it would have served a better purpose had it appeared earlier, during the first operation of the pathogenic agent, as in rheumatism, gout, syphilis, and the specific fevers. Finally, it may come too late, as in perforating ulcer, which may be unattended by pain till the fatal paroxysm of agony occurs. It is true that many diseases, and amongst them some of the above, are due to imprudence, the erring individual knowing well that pain will be the outcome of his conduct. But prudence depends, as Bain points out, upon the vividness of ideal pain, and if the latter is not stronger than the anticipated pleasure, so as to overcome it, it fails to deter, and the fault must be laid at the door of pain, which does not adequately persist in the memory. As regards the imperfection by excess, too many examples, alas, could be quoted; the fact can be established by asking two questions: In how many homes are good and loving people at the present moment praying for the happy *release*? How many doctors are there now struggling, might and main, against pain, not only by removing the cause, which, pushing Mr. Gillies's remarks to a practical issue, would be the only justifiable method of dealing with it, but by every means in their power, and that, too, not solely for the purpose of giving ease for a time, but very often because the pain is distinctly harmful, because, if it cannot be overcome, it may turn the scales in the favour of death? The subject of pain is an awful one, and it is one with which medical men have especially to do; but, for these very reasons, it behoves us, if we write upon the philosophy of it, to be most careful that we approach the subject from a strictly scientific point of view.

I am, Sirs, yours faithfully,
Guilford-street, W.C., Aug. 28th. HARRY CAMPBELL, M.D.

To the Editors of THE LANCET.

SIRS,—Mr. H. Cameron Gillies, in his reply to Dr. Collins's letter, makes a candid but surprising confession. He says: "As to Dr. Collins's own rendering of the matter, which I honestly confess I did not understand....." Surely there was nothing at all incomprehensible in Dr. Collins's "rendering." It would, then, appear that Mr. Gillies does not understand what every believer in the great truths of evolution must admit to be the real meaning of pain. Does, or does not, Mr. Gillies close his eyes to the fact that with the steady onward march of development and natural selection, the nervous system becomes more and more appreciative of *all* sensations? Can he deny that the greater the capacity for enjoyment becomes, the greater must also be the capacity for suffering? If Mr. Gillies deny this, it would be difficult

to convince him on any point. If, on the other hand, Mr. Gillies admit the increasing capacity for pain, why seek to find "interpretations" and "prophecies" in the realms of unsupported conjecture when pain stands out simply as an evidence of evolution? No one has ever denied the "warning cry" of pain; but to assert that a given amount of pain is, in the same measure, a prophecy of recovery, is only another way of saying "the more your nervous system is disturbed the more you are likely to survive" (in, at any rate, by far the largest proportion of cases). How is the prophecy fulfilled in the case of a man suffering the tortures of hydrophobia? The fact that some fatal lesions are unaccompanied by pain and that others are attended with intense suffering should show that pain cannot be looked upon as a constant factor, and is therefore utterly unreliable as a means of prognosis.

I am, Sirs, yours truly,

A. ST. CLAIR BUXTON, F.R.C.S.

Orchard-street, W., September 5th.

THE INOCULATION OF RABIES.

To the Editors of THE LANCET.

SIRS,—The letter in your number of Aug. 27th from Mr. Vincent Richards comes (? from India) at the right time for receiving the attention it deserves. The two questions he would submit to experiment should be answered before the practice of rabic inoculation extends. Analogy is against the view that inoculations are effective *after* infection has taken place. We vaccinate persons who have been exposed to small-pox as early as possible, in the hope that they may not then have received infection; for, happily, all do not at once suffer from the infections to which they are exposed. At one time it was thought that, as vaccination had a shorter time of incubation than small-pox—eight instead of twelve days,—if we could vaccinate within four days of the exposure to small-pox there would be time for prevention. Again, that if the vaccination could proceed to the stage of areola, it would be timely. The experience of our late epidemics of small-pox suffices to upset both theories. It is only where the person who had been exposed to small-pox had *not really been infected* that the vaccination, after the lapse of a few days, would be protective against subsequent danger. At present we have only analogy to guide us: the inoculation of rabbits has produced a form of disease with a shorter incubation than that of furious rabies; the inoculated disease may prevent danger from some future risk of being bitten by a rabid animal, and yet be powerless against the bite already received. Without the experiments suggested by Mr. Vincent Richards it would take years to set this question at rest.

I am, Sirs, yours faithfully,

September, 1887. WILLIAM SQUIRE, M.D.

GRATUITOUS ADVICE AT LONDON HOSPITALS.

To the Editors of THE LANCET.

SIRS,—I have just had an illustration (which I think is worth recording) of the demoralising influence of gratuitous advice at London hospitals upon the upper or well-to-do classes. A lady drove up to my house with her maid, who, she informed me, was suffering from strumous abscess, but was able to attend to her duties. She had got an order for her admission into the Harrogate Bath Hospital (of which I am one of the physicians), but did not wish her to go in, as she was so useful to her. Could she have advice, waters, baths, &c., as an out-patient? I told her she could not. She then said, "She had heard how very kind I was to the poor, and that I would probably tell her what treatment the girl required, or the name of a medical man who gave gratuitous advice." I said that there were none who gave gratuitous advice under such circumstances. She then asked me what treatment I would advise, and, after receiving it, left me with profuse thanks for my kindness. I need scarcely add she did not offer to pay the fee I should have charged her, but told me how much interested her own medical man was in the case, which I have no doubt had manifested itself in the same way as I was compelled to do—viz., *gratuitously*. The case had been an out-patient in London. Comment is needless.

I am, Sirs, your obedient servant,

Harrogate, Aug. 29th. THOS. BRITTON, M.D.

VEXATIOUS ACTIONS: GIBSON AND WIFE *v.* JEFERIES AND HILLS.

To the Editors of THE LANCET.

SIRS,—May I ask you for the assistance you always so readily give to make known the grievances of our profession?

The brief account of the above case in your edition of Aug. 20th could not convey an idea of its importance to general practitioners, as well as all in the practice of midwifery. In the end of last year, owing to severe illness, I was unable to attend the plaintiff. Mr. Hills, a friend and neighbouring practitioner, at great personal inconvenience and from pure friendship and sympathy, did so for me. As was proved at the late trial, he performed his part conscientiously and with evidence (as was testified by so high an authority as Dr. Graily Hewitt) of all the necessary skill. Now what does this case show? That we are all liable at any moment, *without any grounds*, to have actions instituted against us when in the proper discharge of our duties, our professional reputation damaged, and often put to enormous expense defending an action that ought never to have been brought. Besides the injury and injustice to us, may there not be also serious consequences to our fellow-creatures if we are allowed to be so hampered in the performance of our duties? Our vocation is to endeavour to save life, and it is possible to reward our efforts, as this case and many others of late show, by an action at law with its attendant depressing anxieties and loss. I read a few days since in a daily paper of a sailor who risked his life in rescuing a drowning man; on swimming ashore with him, the latter turned on his rescuer and beat him severely. I see but little difference in his case and ours, with the exception that the sailor will perhaps more rapidly recover from the consequences.

I am, Sirs, yours faithfully,

Battersea Park, Aug. 30th, 1887. W. C. JEFFRIES.

THE THERAPEUTICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me once more a space in your columns to answer many correspondents' inquiries? The following will cover questions which have been put to me. There is no occasion for those *at present* desiring membership to secure a proposer and seconder. All who desire to join the society can do so, subject to the rule previously printed in your journal, by simply sending in their names to me or to any member of the Council. After the first meeting the admission will only be by ballot. The subscription, 10*s.* 6*d.* per annum, does not include the price of the quarterly journal, this not being yet fixed, and is not payable until after the inaugural meeting. The time and place of meeting will be duly advertised in the medical papers, and, in addition, notice will be sent by post to each member. I shall be glad to receive fresh names, as we wish to meet our President, Dr. Sydney Ringer, F.R.S., with a full congress. May I remind your readers that the subscription will be raised after the original members' list is full. Thanking you warmly for the valuable aid you have afforded the Society by granting the use of your journal for constant communications,

I remain, Sirs, yours faithfully,

64, Longridge-road, S.W. A. GEORGE BATEMAN, Hon. Sec.

THE MEDICINE STAMP TAX.

(*From a Correspondent.*)

SPASMODICALLY the officers of the Medicine Stamp Department of Somerset House make raids on chemists for selling drugs and medicines which are neither nostrums, patent, secret, nor proprietary. About two years ago they made a special crusade against all foreign medicines. This, however, created such an outcry that the Chancellor of the Exchequer, being repeatedly questioned in the House, investigated the matter, and not only annulled that portion of the medicine stamp tax which applied to foreign medicines, but further promised to bring forward at an early day, either in the then present session or the following

one, legislation for the complete revision, reformation, or repeal of the medicine stamp tax. However, the change of Government thwarted this proposed reform, and with the exception of the annulment of that portion of the Act relating to foreign medicines, no change whatever has been made. Of late the Medicine Stamp Department of Somerset House has shown excessive zeal in prosecuting chemists for selling simple pharmaceutical medicines which have not the slightest resemblance to patent medicines—e.g.: simple quinine, made up into pills by means of sugar, gum arabic, glycerine, or other excipient; quinine pure and simple, enclosed in a capsule of gelatine or covered with sugar; rhubarb, made into a fluid extract or tincture by extracting its properties with alcohols; menthol, dissolved in spirit to form a solution; powdered rhubarb and soda triturated together are under certain conditions held liable. The Board of Inland Revenue rule that each of the before-mentioned, or the mixture or combination of any two or more drugs, or the addition to a drug of any other substance (although it be but a vehicle or adjuvant), are thereby removed from the category of "medicinal drugs—entire" (or crude drugs), and become nostrums, liable to the stamp tax, in each and every case where the medical properties are stated upon the label, or set forth in advertisements to the medical profession and chemists in medical and pharmaceutical journals. All compounds and mixtures of the Pharmacopœia come under this ban according to this arbitrary ruling, and the chemist vending is liable to a heavy fine if he states the medical properties upon the label, or in any advertisements to the medical profession or trade. The chemist may not dispense paregoric, tincture of arnica, or even syrup of squills, without placing upon them a Government stamp if he states upon the label the uses of these medicines. In the case of purely family remedies, and of medicine chests for travellers, it is often of great importance that full particulars of the diseases in which they are beneficial or useful should be set forth.

It should be noted that drugs in their crude state are not liable to the stamp tax. Peruvian bark or Jesuits' powder may be advertised by nostrum vendors to cure all the ills that flesh is heir to without requiring a stamp upon it, but if quinine, its representative active principle, pure and simple, be vended with any adjuvant or other vehicle for masking its intensely bitter taste, it is, under the same conditions, liable to the enormous medicine stamp tax. One of the anomalies of the Somerset House authorities' decisions is that certain preparations can be recommended as "cure alls," though uttered in the form of patent medicines, without being required to pay the stamp tax. The natural effect of the rulings of the Somerset House authorities in respect to the discrimination between crude drugs and improved forms for administering the more eligible preparations of such drugs, is to discourage the chemist in developing the manufacture of legitimate chemical and pharmaceutical preparations. It is quite true that by a very fine technical interpretation of some of the clauses of this ancient and obnoxious Act (which has done so much to increase the sale of poisons under the protection of the stamp), it is within the power of the Board to compel chemists to stamp legitimate Pharmacopœial medicines, or suffer heavy penalties.

This tax bears with special severity upon the poor, who are by their misfortune proportionately the greatest consumers of such medicines as come under the Act. It has been well said that "the poor man, when he falls ill, besides the suspension of his daily wages and the greater necessity for nourishing food, is called upon, when he is least able to spare anything, to pay a high price for his medicine, although that medicine is a necessity of life, and without it he may remain sick, unable to work, and a burden to his family"; and "the price of medicine is of small amount to the rich and well-to-do, but to the vast masses of the labouring classes the fictitious value put on medicine by the Stamp Act is of tragical importance." This Act, be it remembered, was instituted at the time of a great national emergency as a means of raising money to carry on the war against Napoleon, and all other similar Acts of extraordinary taxation then instituted have been repealed. Great Britain stands alone of all the nations of the earth in imposing an enormous stamp tax upon medicines. The United States, with all her extravagant ideas of protection and taxation, during her great national crisis of the civil war, imposed a stamp tax of 4 per cent. on secret medicines only, which they repealed entirely very soon after the war was ended. In this country we have since 1812 exacted the heavy tax of 12½ per cent. on medicines selling for 1s. and upwards, while medicines selling for 6d. such as are consumed most by the very poor, have to pay the enormous sum of 25 per cent., and more than half of the entire medicine tax is collected on these smallest stamps.

The Times (August 7th, 1884), referring to this Medicine Stamp Act, says: "Common sense, common prudence, coupled with commercial interests, alike clamour for its repeal"; and on August 13th, 1884, says: "If a medicine be good, it is surely unjust to raise its price by a tax." The British Medical Association passed strong resolutions praying for the absolute repeal of the medicine stamp tax, declaring that "it is unjust to impose a tax upon medicines."

But it is not alone the burden that this iniquitous Act imposes upon those least able to bear it that has to be considered; it affords a sheltering guise beneath which dangerous poisons, which ought only to be administered under a physician's prescription or direction, can be placed freely within reach of the public. If for want of time the Government cannot take immediate steps to repeal the entire Act, they should, without a moment's delay, annul those clauses which apply to any and all medicines which do not come under the head of patent or secret compounds. It is certainly within the power of the Chancellor of the Exchequer to do this, as there are abundant precedents—one, indeed, in connexion with this Act — namely, the annulment of the clause relating to foreign medicine, by Mr. Childers when Chancellor of the Exchequer in Mr. Gladstone's Government.

LIVERPOOL.

(From our own Correspondent.)

THE ENLARGEMENT OF THE BOOTLE HOSPITAL.

BOOTLE, which forty years ago was a pleasant little village within easy distance of Liverpool, has grown to be an incorporated town, containing about 30,000 inhabitants. What was formerly the Bootle Dispensary, instituted in 1846, expanded first into a cottage hospital, and next, in 1872, into a hospital containing 38 beds. For some time past these latter have been found quite insufficient to supply the demand for patients whose condition rendered treatment within the hospital absolutely necessary. On Aug. 27th an addition to the hospital was opened by Mr. T. H. Imray in the presence of the Mayor (Alderman Wm. Jones) and many of the local clergy, ministers, and leading townsmen. This new portion contains wards named the "Derby," the "Artisans," and the "Danson" wards, with recreation room, operating rooms, out-patients' department, &c. Accommodation for infectious cases has been provided in separate wards so as to admit of perfect isolation. Towards the cost the sum of £1564 had been raised by the Jubilee Committee, it having been previously decided that this should be Bootle's tribute of loyalty to the Queen. The total cost is £11,800, nearly all of which has been provided, a Mr. Rowlandson furnishing one ward, and the *employés* of the White Star Company another.

THE SATURDAY HALF HOLIDAY AND CRIMES OF VIOLENCE.

In addition to the many accidents at the docks and elsewhere which furnished patients for the Bootle hospital, the town has a most unenviable notoriety for crimes of brutal violence, frequently resulting in death, and generally occurring on the afternoon or evening of Saturday. So established was this as a fact, that it led to the pleasantry of substituting "Brutal" for "Bootle." It is believed that a newly organised police force will effect a change for the better; and it is also hoped that working men will be induced to employ their half holidays in a more rational manner than in those drunken debauches in the public-house which both in Bootle and Liverpool are the precursors to acts of violence. It is not many years ago since the late Baron Martin greatly offended local susceptibilities by describing one of these cases brought before him as "a regular Liverpool case." And yet it was perfectly true.

THE MIXTURE OF DRUGS.

At the Police Court on Sept. 2nd a chemist was fined £5 and costs in the first of four charges of mixing methylated spirit with pure spirits of wine; fines of £1 and costs being

inflicted in the remaining three cases. The prosecution was taken up by the Inland Revenue, an officer of which called at different establishments of the defendant, and purchased paregoric, tincture of Cayenne, and sweet spirits of nitre, all of which were found to contain a quantity of methylated spirit. The defence was that it had been done by the assistants to conceal the fact that they had been drinking the spirits of wine.

"CHEWING GUM."

A local confectioner has been fined five shillings and costs, amounting in all to twenty shillings, for selling as "chewing gum" a compound which, according to Dr. Campbell Brown's analysis, contained 38 per cent. of solid paraffin, the remainder being composed of sugar and colouring matter.

Liverpool.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

SEA TRIP FOR THE POOR.

MR. T. S. ALDER, a chemist of this city, last week organised a most successful seaside excursion for the poor children of this city, as well as for such of the aged poor as were able to join the excursion. About 5000 children and 1000 adults were conveyed in special steamers from Newcastle Quay to Tynemouth, where they were treated to games and various amusements on the sands, finishing up with tea &c., and all were safely taken to their homes, not a single accident occurring to mar the day's enjoyment. But it is well to allude to a point which may be remembered should the trip be repeated another year; and it is that children in a state of activity at the seaside have very brisk digestion and soon begin to suffer acutely from hunger; in this case they were kept far too long without food, notwithstanding the abundant supply provided. All the other arrangements were perfect, including ambulance attendance under Dr. Lightfoot, &c. But with active children frequent feeding is a *sine qud non*.

POISONING BY ACONITE.

A sad case of accidental poisoning by aconite occurred last week at Fence Houses, a village in the county of Durham. A man named Hughes asked his wife early in the morning to hand him a liniment, which he was using for his back; she did so, and put the bottle back in a cupboard. Soon afterwards he wanted some cough mixture, and took out the liniment bottle in mistake, drinking a teaspoonful in half a wineglassful of cold water. The mistake was immediately found out by the man and his wife, and Dr. McGill was called in, under whose treatment he revived for a while, but soon afterwards died from the effects of the poison.

JARROW.

The Memorial Hospital erected about ten years ago by Sir C. M. Palmer to the memory of his wife has been so useful that an extension is necessary, which will comprise a boy's ward, a girl's ward, lying-in ward, medical department, with extension of the dispensary and other necessary offices.

TYPHUS IN NEWCASTLE.

Our medical officer of health has presented a special report on the recent outbreak of fever in Newcastle. Mr. H. E. Armstrong's report presents many points of interest forcibly put as to the Corporation having powers to remove all cases to hospital where isolation could not be carried out for want of requisite means. Mr. Armstrong points out that another lesson from the outbreak is the importance of medical students being taught the different varieties of fever and other infectious diseases as part of their curriculum.

Newcastle-on-Tyne, Sept. 5th.

THE SANITARY INSTITUTE OF GREAT BRITAIN.—The Institute has issued its preliminary programme of the tenth Congress, to be held at Bolton on the 20th inst. and four following days. The opening address will be delivered by Lord Basing, F.R.S. On Wednesday an address will be given by Dr. Russell Reynolds, F.R.S., in the Section of Sanitary Science and Preventive Medicine. On the following day Professor Hayter Lewis, F.S.A., will discourse on a subject connected with sanitary engineering and architecture. On Friday Dr. Dupré, F.R.S., will deliver an address in the Section of Chemistry, Meteorology, and Geology. On Saturday addresses will be delivered to the working classes by various gentlemen on subjects of popular interest from a public health point of view.

DUBLIN.

(From our own Correspondent.)

LOCAL GOVERNMENT BOARD FOR IRELAND.

IN the last annual report attention was drawn to the fact that there was a decrease in the average daily number of persons relieved in the workhouses in the year ending Jan. 1886, as compared with the number relieved in the preceding year. The returns for the year under consideration show a further decline in the average daily number of persons relieved in the workhouses. On the other hand, there has been an increase of 19,276 persons in the average daily number who obtained out-door relief, but this increase was mainly due to the operation of the Poor Relief Act of last year. During the twelve months ending January 15th last, the total number of deaths in the workhouses amounted to 10,694, being a decrease of 281 as compared with the previous return. Deaths by fever were 346, as against 371; by lung disease, 1848, as against 1997; and there was only one death from small-pox, being one less than in the previous year. As regards the number of cases in which medical relief was afforded under the Medical Charities Act, it appears that there was a decrease of 18,085, including those prescribed for at dispensaries, and attended at their own homes, as compared with the preceding year. During the year ended September 30th, 1886, 94,361 persons were vaccinated, showing a considerable decline, amounting to 7451 as compared with the previous year. The total expenditure of poor-rates for poor relief, medical relief, burial grounds, sanitary measures, superannuation, &c. was in 1886, £1,360,597, or an increase of £102,132.

HYDROPHOBIA.

Lord Doneraile's death from hydrophobia makes, it is stated, the ninety-sixth death of persons who have undergone M. Pasteur's method of treatment. A large number of those who have been bitten by rabid animals recover no matter what treatment is used; and, therefore, the apparent cures by a certain method of treatment require to be largely discounted. On the other hand, when nearly 100 persons have succumbed from hydrophobia, although M. Pasteur's directions have been carefully caried out, it shows undoubtedly that up to the present a specific for the cure of this dread malady has not yet been discovered.

THE PREVALENCE OF OPHTHALMIA IN THE CORK WORKHOUSE.

The Cork guardians last week received from the Local Government Board the report of their inspector, Dr. O'Farrell, on the prevalence of ophthalmia in the workhouse. He states that the schoolrooms and dormitories are cheerful, clean, orderly, and well ventilated. The ventilation of the boys' hospital, as pointed out by Dr. Sandford, needs improvement, and the sewerage of the entire school buildings require attention. The playgrounds being covered with limestone gravel the children are enveloped in clouds of dust during dry weather, which must have a most irritating effect on their eyes, tender and predisposed as so many of them are to ophthalmia. As regards the important question of treatment, the report considers (1) the means likely to check the present outbreak, and (2) those general hygienic measures which favour the origin and propagation of ophthalmia and other diseases among them. The essence of acute ophthalmia being contagion, he recommends that all children who have discharge or other active symptoms should be isolated as far as possible; while attention should be paid to the lavatory and bathing arrangements. He suggests increased medical inspection and supervision, and recommends that the guardians should appoint a house-surgeon or assistant house-surgeon, preferably one with a special knowledge of eye diseases, who would undertake the supervision and treatment of all the children; that he should examine all fresh admissions into the schools, and that he should treat the severe eye cases in hospital under the direction of the visiting medical staff. Dr. O'Farrell also recommends increased attention to physical training; and that all the children should be encouraged to use gymnastic exercises. The schools and dormitories should be heated during winter, and there should be increased accommodation for the younger children, so that each should have a separate bed, also increased attention to their cleanliness and physical development. These

are the main points dealt with in a very able report, and a special meeting of the guardians has been called to consider it.

THE COACHFORD POISONING CASE.

Dr. P. Cross, retired surgeon-major, A.M.D., who was arrested on suspicion of having poisoned his wife, will be tried at the next sessions.

Last week Madame Marie Roze visited Jervis-street, and sang a number of songs for the amusement of the inmates.

Dublin, Sept. 6th.

BELFAST.

(From our own Correspondent.)

THE ROYAL HOSPITAL.

FROM the report presented at the last quarterly meeting (held on Aug. 22nd), we learn that during the past three months 469 intern patients, and 2819 extern patients were treated. Great regret was expressed owing to the death of Prof. Gordon and Dr. J. Moore, who for a long series of years were surgeons to the hospital. In reference to the important subject of finance, we find that a total of £3269 7*s.* 1*d.* has been received for the present year. The total expenditure up to the end of July, including the balance due at the end of last financial year, has been £3948 10*s.* 1*d.* Of this amount the sum of £1100 2*s.* 8*d.* is still unpaid. The ordinary income of the hospital still falls far short of the ordinary expenditure, but fortunately during the present year there have been some special sources of income which enable the Board to meet the claims upon them without strain or inconvenience. During the past eleven months the sum of £4000 has been invested to the credit of the hospital. In accordance with a rule of the hospital, all the attending medical officers are elected for periods of four years, at the end of which they retire, but are eligible for re-election. The following members of the staff, whose term of office had expired, were re-elected at this meeting. Physician: Dr. Ross. Physician for Diseases of Women: Dr. John W. Byers. Surgeon: Dr. Walton Browne. Ophthalmic Surgeon: Dr. Joseph Nelson. Assistant Physician: Dr. J. A. Lindsay.

ULSTER MEDICAL SOCIETY.

At the annual meeting of this Society held on Aug. 24th, the report, giving full details of last year's work, and the treasurer's statement, which showed that there is a substantial balance in hand, were submitted. Dr. Robert Esler was elected President, and Dr. John Macaw Secretary for the ensuing session.

THE MORGUE.

A short time ago public attention was drawn to the situation of this building by the circumstance that an owner of property in the neighbourhood made an application at the police court. He stated that owing to the presence of the Morgue his property is seriously deteriorating, that his tenants are leaving, and that disease may at any time break out among the children who are constantly running about in its vicinity. The matter was brought before the Public Health Committee of the Town Council. At this meeting it was shown that bodies of persons who have died of infectious disease are not taken to the Morgue, and that only those who have been drowned or have in some other way come to a sudden death are left in this place. The subject was ultimately referred to Dr. Samuel Browne, consulting sanitary officer of Belfast, and it is hoped that arrangements may be made by which this most unhandsome building may be removed from its present situation in the centre of Belfast.

HOSPITAL SATURDAY.

The recent collection throughout Belfast for the Royal Hospital realised the sum of £226 10*s.* 6*d.* Although the day was rather unfavourable, it must be admitted that, considering the population of the town (220,000), this is anything but satisfactory, and the more to be regretted as it shows a falling off from last year.

Belfast, Sept. 3rd.

A SISTER of the Red Cross at Odessa has been bitten on the hand by a man suffering from hydrophobia whom she was nursing. She has been treated as if she had been bitten by a rabid dog.

PARIS.

(From our own Correspondent.)

M. LUYS AND HYPNOTISM.

THE Academy of Medicine of Paris is not only a learned society. It serves also as a consulting body to the Government in matters of public health, and hence the utterances which receive its sanction may be taken to represent the official science of the day. Hitherto its members have been sober—at any rate, in the precincts of the Academy—in their expression of opinion concerning hypnotism; and if communications have been made from time to time on this subject, they have mostly been characterised by mere triviality, the more irrational statements in the so-called "psychical" science having been reserved for the other societies. M. Luys, however, is ambitious of official recognition for the vagaries of hypnotism; and he has had the happy idea of entertaining the Academy with his researches about the "Solicitation expérimentale des phénomènes émotifs chez les sujets en état d'hypnotisme." It is regrettable that the "facts" stated at the last meeting should have been brought forward by one who has hitherto enjoyed the reputation of a *savant* on cerebral physiology, and whose work on the brain is a standard text-book; but M. Luys will have done a service in forcing the Academy to an expression of opinion concerning the practices carried on in many of the Paris hospitals, where hypnotism, daily misapplied under a therapeutic pretext, has nearly constantly one only effect—that of destroying the mental and moral equilibrium of those previously sound in this respect, and of inducting many patients into the gravest degradation of hysteria. M. Luys' communication relates to the action of certain medicines upon hypnotised subjects by radiation, from the inside of hermetically sealed glass tubes. This interesting discovery, which dates, at any rate, from Hahnemann, was rediscovered by MM. Bourru and Burot, and related by them at the Congress of Grenoble, and they have since written a book on the subject. M. Luys has repeated and extended their experiments with eighty-six different substances, and finds that the effects produced upon the hypnotised organism by the action of the stimulating agents are of two orders. In one the subject is silent, and reacts as an automaton; morphine, strychnine, valerian, and sparteine produce phenomena of the kind. In the other the subject enters into the phase of lucid somnambulism, hears and enters into communication with the outside world. This is effected by Indian hemp, coffee, alcohol, and various odorous substances. In the first series of experiments the subjects are placed in a state of lethargy. The sealed tube containing the medicine is put at the nape of the neck, and in a short time the face expresses a state of feeling—generally that of displeasure. In those who enjoy a dual personality (*sujets dedoublés*) the same substance will provoke an expression of suffering or malaise when applied to the right side of the brain, and a state of joy and expansion when placed on the left. Essence of thyme causes the submaxillary and thyroid regions to swell, the face to become turgescent, and the eyes to protrude. It must be noted that all this is recorded photographically. Morphia placed on the left side of the nape of the neck gives rise immediately to a feeling of terror. If the application is continued, the subject, actuated by the "instinct of protection," expresses the greatest anger. Upon changing sides and placing the tube behind the right ear, this subsides, and the face becomes calm and placid. Strychnia produces convulsions when applied on the left side; on the right, a state of gaiety and "jubilation." To quote a last example: Valerian gives rise to emotions having a character of great sadness. "The subject," says M. Luys, "is under the influence of an irresistible impulse to scrape the earth. He kneels down to do so, and the idea comes to him that he is in a cemetery. He performs the exhumation of a beloved friend, placing aside the soil with his hands and piously gathering together the remains. He makes a little mound upon which he places a cross, and goes through the funereal ceremony with groans, genuflexions, crossings, and kissings of the earth!" Not only is the preceding statement profoundly ridiculous, coming from a physician versed in mental science, but it is also opposed to what was obtained with the same agent by MM. Bourru

and Burot. Valerian was found by these observers to cause "violent excitement," and to give rise to the same emotions as in a cat. The subject runs about sniffing, scratches a hole, and places his face in it. If these were isolated experiments, having been only preceded by those already mentioned—as the perpetual secretary of the Academy, in expressing his astonishment at M. Luys' communication, seemed to believe,—it would scarcely be worth while to discuss their explanation; but according to M. de Rochas, who has published a recent work on "Non-defined Forces," similar results have been obtained in the wards of M. Brouardel, the present dean of the Faculty, of M. Charcot, and of M. Dumontpallier. In the wards of M. Dumontpallier, "opium (applied in tubes), has induced sleep in a hystero-epileptic. In M. Charcot's service a woman submitted to alcohol presented an irresistible sleepiness, staggering, heaviness of the head, moderate and agreeable intoxication, and vomiting—symptoms which were arrested by ammonia. In a patient (!) in the service of M. Brouardel the action of alcohol was chiefly exerted on the legs. Valerian caused heaviness of the head, somnolency, and a kind of drunkenness." There can be no doubt that these experiments have been performed with the results published; and, if the experimenters think that the application of their tubes and the symptoms which follow have a relation of cause and effect, they are, of course, entitled to that belief. But in my opinion the experiments are carried on in the very worst possible conditions for a scientific test, and in many cases the observers seem not only to ignore the psychology of hysteria, but also to be unacquainted with the most elementary principles of hypnotism. I have seen the operator guilelessly whisper to a visitor that such and such an effect would be produced, apparently unaware of the fact that in the hypnotic condition there is a state of hyperacousia which makes the faintest sound audible. When the subject does not actually hear what is the name of the medicine under experiment, she is almost sure to have to go through her performance in a certain order. The experimenter generally shows the phenomena *crescendo*, from the less to the more astounding, and should there be any change in this respect to the trained subject the expression of the face and the inflexion of the voice are very sufficient guides. There is also such a thing as auto-suggestion, and from what I have seen, it is very often the would-be suggester who comes away from the séance with a delusion.

Paris, Sept. 7th.

Obituary.

THOMAS CUMING, M.D., F.K.Q.C.P.I.

WE have to record the death of one of the oldest medical practitioners in Ulster—Dr. Thomas Cuming, who died on Sept. 4th, at his residence, Armagh, in his ninetieth year. Dr. Cuming studied at Edinburgh and Dublin, and was a graduate of both Universities, and he was also elected a Fellow of the King and Queen's College of Physicians, Ireland. He was for a time physician to the Wellesley Fever Hospital, Dublin, and assistant physician to the Institution for Diseases of Children, Pitt-street, Dublin. He was also at one time lecturer on Practice of Medicine at the Richmond School of Medicine, and on Diseases of Children at the Pitt-street Institution, Dublin. When a very young man Dr. Cuming settled in Armagh, where he soon found himself fully occupied with a serious outbreak of fever; and so much was he personally respected, and his skill as a physician admitted, that he rapidly came to the front as the leading medical man in Armagh and the surrounding district. For many years he was consulting physician to the Armagh Lunatic Asylum, of which he was a trustee; and when a younger man he was an active member of the Armagh Natural History and Philosophical Society. It is said that never but once for sixty years was he absent from the annual meeting of the Armagh auxiliary to the Hibernian Bible Society. He was physician to the late Lord Primate of Ireland, and it was during his visits to the Palace in the winter that he caught a cold, and for a time it seemed doubtful as to whether the doctor or his patient would succumb first. It was a great grief to him not to be with his friend the Lord Primate to the end of his last illness. Dr. Cuming was a man highly beloved and respected both as a friend and as a physician, and his death removes one of the links connecting the present with the past generation.

Medical News.

SOCIETY OF APOTHECARIES.—The following gentlemen having satisfied the Court of Examiners as to their knowledge of the Science and Practice of Medicine, Surgery, and Midwifery, received certificates to practise as Licentiates of the Society on Aug. 15th:—

Atkinson, Guy C. Barlow, Danby Parsonage, Gresmont.
Bays, James Thomas, Queen-street, Peterborough.
Blake, Edwin H., Claremont, Cleveland-rd., Wanstead, Essex.
Cotton, John, Holly Mount, St. Anns, St. Helens, Lancashire.
Heelas W. Wheeler, The Holt, Wokingham, Berks.

The following gentlemen passed the examination in Surgery held on July 27th and 28th, and Aug. 10th, 11th, 24th, and 25th—

Bays, James Thomas, St. Mary's Hospital.
Beaumont, William Henry, the London Hospital.
Buist, James Joseph, St. Bartholomew's Hospital.
Clarke, Edward Alfred, Owens College, Manchester.
Ellis, William, St. George's Hospital.
Fletcher, Frederick James, Queen's College, Birmingham.
Garvey, Henry Patrick, Dublin.
Gunning, Montague Shirley Wyatt, University College.
Hudson, James Wasdale, Middlesex Hospital.
Jenkinson, Joseph Arthur, Owens College, Manchester.
Parsons, George Gooden, London Hospital.
Williams, William Wilfred, Guy's Hospital.

At the recent examination for the prizes in Materia Medica and Pharmaceutical Chemistry, given annually by the Society, the successful candidates were:—

First. William McAdam Eccles, student of St. Bartholomew's Hospital, The Gold Medal.
Second. Alfred Banks, student of St. Thomas's Hospital. The Silver Medal and Books.

VACCINATION GRANT.—Mr. R. L. Shone, medical officer to the Mortlake district, has received the Government grant for successful vaccination in his district (third time).

AT a meeting of the Merthyr Tydvil Local Board on the 7th inst., it was reported that an outbreak of typhus had occurred at Dowlais.

DEATH WHILE UNDER THE INFLUENCE OF CHLOROFORM. The death, in the Gloucester Infirmary, of a patient to whom chloroform had been administered preparatory to an operation rendered necessary by an injury to the hand, is reported.

PROFESSOR GUSTAF BRAUN has, it is reported, sent a telegram from Vienna to the Queen of Denmark respecting the Duchess of Cumberland, stating that "the physical and mental condition of Her Royal Highness is very satisfactory."

ON the 6th inst. a public inquiry was held at Chichester, before Major Hector Tulloch, R.E., a Local Government Board inspector, with reference to the application of the Town Council for powers to borrow a sum not exceeding £2250 for the purpose of building an infectious diseases hospital.

HOSPITAL SATURDAY FUND.—On the 3rd inst. the subscriptions of the various industrial establishments of London on behalf of this fund became due. It is of course too early to speak with any degree of certainty as to the result of the workshop collection, but it is confidently believed that it will reach at least £7000.

SCARLET FEVER IN DUNDEE.—During last month there was an alarming increase of infectious disease in Dundee. Notwithstanding the exertions of the sanitary authorities, scarlet fever is now very prevalent in the town. The disease is not confined to any particular district, and last month ended with a total of 294 more cases than on the 31st of July.

TEMPERANCE SUNDAY.—At a gathering of representatives from various religious bodies, held at the Memorial Hall, Farringdon-street, on the 6th inst., it was resolved:—"That this conference of representatives of the principal Nonconformist temperance organisations unanimously recommends that the last Sunday in November in each year should be observed as Temperance Sunday." The conference also unanimously recommended that a united demonstration be held during the week following the sermons in November.

NEW COTTAGE HOSPITAL AT SYDNEY.—The ceremony of laying the foundation stone of the new buildings for the Cottage Hospital at North Shore, Sydney, was performed by Sir Henry Parkes on the afternoon of June 4th. The buildings will contain three wards for men, women, and children, will accommodate about forty patients, and have all the necessary offices required for the proper treatment of the sick.

ULSTER MEDICAL SOCIETY.—The annual meeting of this Society for the election of office-bearers was held recently in the Museum, Belfast. The retiring president, Dr. Whitla, was strongly urged to accept re-election in recognition of his valuable services during the past session, but declined the proffered honour owing to press of engagements. On the motion of Dr. Whitla, seconded by Dr. Burden, Dr. Esler was then unanimously elected president for the ensuing year. Several members bore testimony to Dr. Esler's untiring labours as treasurer and in other subordinate offices, which contributed in so large a measure to the numerical strength and financial prosperity of the Society. The other offices were filled as follows:—Vice-presidents, Dr. Dempsey and Dr. O'Neill; treasurer, Dr. Stanley B. Coates; secretary, Dr. M'Caw; librarian, Dr. Strafford Smith; pathological secretary, Professor Sinclair; Council—Professor Dill, Dr. Kevin, Dr. Calwell, Dr. O'Connor, Dr. Bigger, and Dr. Burden.

THE SALARIES OF MEDICAL OFFICERS OF HEALTH.—At a meeting of the Totnes Union Rural Sanitary Authority, held on the 3rd inst., a letter was read from the Bodmin Rural Sanitary Authority on the subject of the remuneration of a medical officer of health, the Local Government Board having refused to sanction the appointment of their officer on the ground of the inadequacy of the salary, thereby depriving them of a moiety of the salary allowed by the Parliamentary grant. The Bodmin Authority considered the action of the Board arbitrary and unreasonable, and in view of the possibility of other unions having experienced the same difficulty, it had been suggested that united action on the part of those who were similarly affected might be the means of securing a fair and proper consideration of the whole matter. Another letter on the same subject was read from the Sanitary Authority at Okehampton. After some discussion it was decided that the clerk should ascertain the salaries paid by other authorities, and further consideration of the question was then adjourned.

THE BURMESE CAMPAIGN.—The *London Gazette* of the 2nd inst. contains dispatches received by the Secretary of State for War from the Secretary of State for India in Council relative to the Burmese campaign. The Viceroy of India mentions the name of Deputy Surgeon-General J. McN. Donnelly. The Commander-in-Chief in India mentions the services of Surgeon-Major W. Taylor, Medical Staff, and Deputy Surgeon-General G. Farrell, C.B. Brigadier-General Anderson mentions the following officers:—Surgeon-Major T. W. Patterson, Medical Staff, Senior Medical Officer, 4th Brigade, and Surgeon-Major F. W. Wright, M.B., Indian Medical Service. The following officers have been brought to notice by Brigadier-General Stewart for good service:—Surgeon J. P. Barry, M.B., Indian Medical Service, and Surgeon W. A. Sykes, Indian Medical Service. Brigadier-General Low, C.B., has named the following officers:—Surgeon-Major J. F. Supple, Senior Medical Officer, 6th Brigade, and Surgeon A. P. Adams, Indian Medical Service. Brigadier-General Cox has brought the following officer to notice:—Surgeon-Major J. S. Wilkins, Indian Medical Service. The Principal Medical Officer has recommended the following medical officers for special zeal and ability:—Surgeon-Major R. de la Cour Corbett, M.D., Medical Staff; Surgeon R. V. Ash, M.B., Medical Staff; Brigade-Surgeon W. H. Roberts, M.D., Madras Medical Service; Surgeon-Major T. W. Patterson, Medical Staff; Surgeon D. Elcum, Madras Medical Service; Surgeon H. K. Fuller, M.B., Madras Medical Service; Surgeon-Major E. Fawcett, Madras Medical Service; Surgeon-Major J. S. Wilkins, Bombay Medical Service; Surgeon-Major W. Venour, Medical Staff; Surgeon-Major F. W. Wright, M.B., Bengal Medical Service; Surgeon-Major C. E. M'Vittie, Madras Medical Service; Surgeon M. O'C. Drury, Medical Staff; Surgeon W. A. Sykes, Bengal Medical Service; Surgeon-Major J. F. Supple, Medical Staff; Surgeon-Major C. F. Ogilvie, M.D., Bombay Medical Service; Surgeon-Major J. T. B. Bookey, Bengal Medical Service; Surgeon-Major R. D. Murray, M.D., Bengal Medical Service; Surgeon J. Macgregor, M.D., Bombay Medical Service; Surgeon W. A. Morris, Medical Staff; Surgeon P. F. O'Connor, Bengal Medical Service; Surgeon R. E. S. Davis, M.B., Madras Medical Service; Surgeon A. P. Adams, Madras Medical Service, of whom General White selects the following for special mention:—Surgeon-Major R. de la Cour Corbett, M.D., Medical Staff; Surgeon-Major R. V. Ash, M.B., Medical Staff; Surgeon-Major T. W. Patterson, Medical Staff; Surgeon-Major J. S. Wilkins, Bombay Medical Service; Surgeon-Major W. Venour, Medical Staff; Surgeon-Major F. W. Wright, M.B., Bengal Medical Service; Surgeon W. A. Sykes, Bengal Medical Service; Surgeon-Major J. F. Supple, Medical Service; Surgeon A. P. Adams, Madras Medical Service. General White mentions the services of Deputy Surgeon-General G. Farrell, C.B., and Surgeon-Major H. W. A. Mackinnon. Brigadier-General W. S. A. Lockhart, C.B., C.S.I., Commanding the 3rd Brigade, submits an additional list of officers in his command who have rendered good service up to date, in which appear the names of Surgeon W. G. Birrell, M.B., Medical Staff; Surgeon A. W. F. Street, Indian Medical Service; Surgeon P. de Conceiçao, Indian Medical Service; and the late Surgeon E. W. Kelsall, Medical Staff. Colonel Stedman mentions the names of Surgeon-Major J. C. G. Carmichael, M.D., 3rd Goorkha Regiment, Surgeon A. W. F. Street, Bombay Medical Service; and Surgeon P. C. H. Gordon, Medical Staff. Major-General J. J. H. Gordon, C.B., commanding the Eastern Frontier District, March 21st, mentions the services of Surgeon F. A. Rogers, Indian Medical Service.

MEDICAL NOTES IN PARLIAMENT.

House Boats on the Thames.

IN the House of Commons, on the 1st inst., Mr. Coghill asked the President of the Local Government Board whether he was aware that since his attention was called to the matter in February last the water of the Thames had continued to be polluted by the sewage and other refuse of house boats and steam launches.—Mr. Ritchie said that since March last two bye-laws which had been made on the subject by the conservators had come into force on June 18th. Shortly after that date the conservators addressed notices to the owners of house boats, drawing special attention to the requirements of the bye-laws to prevent the pollution of the river by the discharge of sewage. He had made further communications with the conservators, asking what steps they had taken to see that their bye-laws were carried out.

Rank of Army Medical Officers.

On the 5th inst., in answer to Dr. Clark, Mr. Stanhope repeated the statement that the recent Royal Warrant by abrogating relative rank detracted in no sense whatever from the status, precedents, or privileges of medical officers. Whatever privileges they had under Clause 17 of the Royal Warrant of 1858 they have now, with this exception, that in some cases they rank higher than they then did. He was not aware that there was any difficulty in obtaining qualified candidates. The hon. member was quite mistaken in supposing that he had promised a committee, nor did he think that it would serve any useful purpose.

Fever Hospitals.

On the 6th inst., in reply to the Marquis of Carmarthen, Mr. Ritchie stated that the question whether the South-Western Hospital or that at Winchmore-hill should be opened was considered by the managers of the Metropolitan Asylums Board, who determined by a considerable majority in favour of opening the former. The Winchmore-hill Hospital was not furnished, and it would, therefore, have taken longer than the other hospital to prepare for patients. The matter, however, was one of urgency, and the committee had already found it necessary to act upon the resolution of the managers, and to open the South-Western Hospital. No evidence had been adduced to show that during the seventeen years which have elapsed since this hospital was first opened fever has spread from it to the surrounding houses, and, under all the circumstances, he had not thought it necessary to interfere with the decision of the managers on the subject.

The Medical Staff in India.

Sir W. Foster asked the Under-Secretary of State for India whether an executive officer of the medical staff in India, who officiated for less than one month as Deputy Surgeon-General, in the absence of the Deputy Surgeon-General on sick leave or furlough, received no allowances for the period, although he performed the duties in addition to his other duties; whether in such an instance the "half-staff" of the appointment reverted to the State; whether the acting officer would be held pecuniarily liable in the event of loss of stores or other mistakes; and whether officers officiating on the military (combatant) staff in a similar way would draw the "half-staff" for broken periods, and why the difference was made in the case of medical officers.—Sir J. Fergusson, in reply, said that in accordance with the undertaking given by him on June 17th, when this question was first put, a despatch on this subject was addressed to the Government of India, but no reply had yet been received.

The Burning of the Exeter Theatre.

Sir J. Puleston asked the Home Secretary whether as the Exeter Theatre had been recently built any official survey had been made before it was open.—Mr. Matthews replied that no official survey was held by the Home Office, because the Home Office has no authority in the matter. The jurisdiction lies with the justices at special sessions.—Dr. Tanner

said he wished to ask the Secretary of State for the Home Department whether, in consequence of the frequently recurring disasters and loss of life in theatres and other places of public amusement, steps would be immediately taken to appoint two or more inspectors under the department whose duty it should be to inspect all places of public amusement in Great Britain and Ireland, and who should have power at once to prevent any performance or public meeting being held in such theatres or places as should not be adequately provided with commodious exits for use in all cases of sudden emergency; and, also, whether, bearing in mind the fact that most fires originated on the stage, as was the case in the dreadful calamity last night in Exeter, the iron drop scene should in future be deemed a necessary appurtenance to every theatre.—Mr. Matthews regretted to say that it would not be possible to act on the suggestion without legislation. Outside the metropolitan area there was no power in any Government department or in any local authority to inspect theatres or to insist on structural alterations in an existing theatre. Within the metropolitan area the Metropolitan Board of Works have sufficient powers to enforce the precautions which they may deem necessary; and they have largely acted on those powers. The dreadful calamity which has occurred at Exeter shows the necessity of legislation for provincial theatres, and the Government would give their attention to the subject.

Mr. Lawson obtained leave to introduce a Bill, which was read a first time, to prevent nuisances on vacant grounds and open spaces.

BOOKS ETC. RECEIVED.

ARGUS COMPANY, Albany, New York.

Fourth Annual Report of the Bureau of Statistics of Labour of the State of New York for 1886. Transmitted to the Legislature, January, 1887. pp. 800.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand, London.

A Treatise on the Animal Alkaloids, Animal and Vital; or, the Ptomaines and Leucomaines, considered in relation to Scientific Medicine. By A. M. Brown, M.D. With an Introduction by Prof. A. Gautier. pp. 182. 6s.

BERGMANN, J. F., Wiesbaden.

Die Heilquellen des Taunus. Herausgegeben von Hofrath Dr. Grossmann. Sm. 448.

BLAKISTON, SON, & Co., New York.

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. Paul Bar. Translated by H. D. Fry, M.D. pp. 175.

CHATTO & WINDUS, Piccadilly, London.

Hydrophobia; an Account of M. Pasteur's System. By Renaud Suzor, M.B., C.M.Edin. pp. 231, with 7 Illustrations.

CHURCHILL, J. & A., New Burlington-street, London.

Handbook of Gynæcological Operations. By Alban H. G. Doran, F.R.C.S. pp. 485, with Illustrations.

A Manual of Physiology for the Use of Junior Students of Medicine. By Gerald F. Yeo, M.D.Dub., F.R.C.S. Second Edition. pp. 668, with Illustrations.

The Commoner Diseases and Accidents to Life and Limb. By M. M. Basil, A.M., M.B., &c. pp. 104.

CROSBY, LOCKWOOD & Co., Stationers' Hall-court, London.

Handbook of House Property. By E. L. Tarbuck, Architect and Surveyor. Fourth Edition, enlarged. pp. 278.

DOIN, O., Paris.

Traité Pratique des Maladies du Nez et de la Cavité Naso-pharyngienne. Par Dr. Morell Mackenzie, Traduit de l'Anglais et Annoté par les Drs. E. J. Moule et J. Charazac. pp. 446, avec 82 figures.

LEWIS, H. K., Gower-street, London.

Sprains, their Consequences and Treatment. By C. Mansell Moullin, M.A., M.D.Oxon. pp. 268.

Gout and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M.D., F.C.S. Fourth Edition. pp. 169.

MACLACHLAN & STEWART, Edinburgh. SIMPKIN MARSHALL & Co., London.

Observations on Mental Derangement. By Andrew Combe, M.D. Edited and abridged by Arthur Mitchell, C.B., M.D., LL.D. pp. 114.

OLDENBOURG, R., München u. Leipzig.

Zum gegenwärtigen Stand der Cholerafrage. Von Max v. Pettenkofer. Sm. 753, mit vier Tafeln.

WHITTAKER & Co., Paternoster-square, London.

A Dictionary of Terms used in Medicine and the Collateral Sciences. By the late Richard Hoblyn, M.A.Oxon. Eleventh Edition, revised by J. A. P. Price, B.A., M.D.Oxon. pp. 806.

Report on the Trinidad Leper Asylum for 1886; by Beaven Rake, M.D.Lond.—Le Charbon des Animaux et de l'Homme; par Prof. I. Straus (Delahaye, Paris).—On Abdominal Section for the Treatment of Perineal Injury; by Sir Wm. MacCormac, F.R.C.S.—Beobachtungen über Malaria insbesondere das Typhoide Malariafieber; von Dr. P. Werner (Herschwald, Berlin). — Årsberättelse fran Sabbatsbergs Sjukhus i Stockholm för 1886; afgifven af Dr. F. W. Warfvinge.—Dentistry and its relation to the State; by W. Mc P. Fischer, L.D.S.Eng., with Preface by Sir J. Tomes.—Suprapubic Cystotomy for purposes other than the Extraction of Calculus; by J. H. Packard, A.M., M.D.—La Chirurgia Renale; per il Prof. Antonio D'Antona.—Index Medicus, Vol. IX., No. 7.—Programme of Technological Examinations, City and Guilds of London Institute.—Senkung und Vorfall von Scheide unde Gebärmutter sowie die Veralteten Dammrisse; von Dr. G. Walcher (H. Laupp'schen Buchhandlung, Tübingen).—Gratuitous Advice to Parents and Teachers on the Physical and Moral Training of Young Men and Boys; by A. M.R.C.S., L.S.A., &c. (Ranken, Drury-lane).—A Catalogue of Some Books relating to the Disposal of the Bodies and perpetuating the Memories of the Dead; by John Townshend, Counsellor of the Supreme Court, New York (private distribution).—Currency, or Bi-metallism Examined; by Wm. Birkmyre (Macnaughton and Sinclair, Glasgow).—Petroleum; Valuable Hints to those who use it (302, Strand).—Ortell en Marteau—Nouveau Traitement par Ostéotomie Cunéiforme; par Dr. E. Cohen (Baillière et Fils, Paris).—Magazines for September:—Good Words, Sunday Magazine, Leisure Hour, Sunday at Home, Boys' Own Paper, Girls' Own Paper, Scribner's Monthly.

Births, Marriages, and Deaths.

BIRTHS.

COLLINS.—On the 5th inst., at Jessamine Cottage, Ash-next-Sandwich, Kent, the wife of M. J. Collins, L.R.C.S.E., &c., ex-Surgeon, R.W.J.M.S., of a son (Reginald Michael).

FRANKS.—On the 2nd inst., at Fitzwilliam-square, Dublin, the wife of Kendal Franks, M.D., of a daughter.

ISAAC.—On the 1st inst., at Mornington-crescent, N.W., the wife of G. Washington Isaac, M.B., of a daughter.

ORR.—On the 30th ult., at Wollaston, Wellingborough, the wife of James W. Orr, of a daughter.

PARSON.—On the 6th inst., at Cumberland House, Kew, the wife of C. Jenner Parson, M.D., of a daughter.

PHILLIPS.—On the 1st inst., at Denny House, Waterbeach, near Cambridge, the wife of H. Astley Phillips, M.D., of a son.

RAHILLY.—On the 1st inst., at Merton Lodge, Clifton, the wife of Surgeon-Major Rahilly, Army Medical Staff, of a son.

ROBERTS—On the 29th ult., at Ealing, the wife of H. Prescott Roberts, M.D., prematurely, of a daughter (stillborn).

STEEL.—On the 5th inst., at Radnor Villa, Upper Chorlton-road, Manchester, the wife of Graham Steell, M.D., of a son.

WHEELER.—On the 27th ult., at Pembridge-gardens, W., the wife of John Wheeler, M.D., M.Ch., M.A.O., of a daughter.

WHYTE.—On the 30th ult., at Lovegrove-terrace, Mile-end, Portsmouth, the wife of Alexander Whyte, M.B., M.R.C.S., of a son (stillborn).

MARRIAGES.

ARCHER—LOWNE.—On the 3rd inst., at St. Michael and All Angels', North Kensington, W. G. Archer, Esq., M.B.Cantab., F.R.C.S., son of the late John Archer, Esq., F.R.C.S., of Birmingham, to Nellie, the only daughter of Benjn. Thompson Lowne, Esq., F.R.C.S.

HARVEY—MARSHALL.—On the 1st inst., at the Parish Church, Mitcham, Surrey, by the Rev. P. Legg, Vicar of Christ Church, Mitcham, assisted by the Rev. O. H. Seaton, Thomas Pashley, eldest son of the late G. T. Harvey, of Baron Grove, Mitcham, to Helen May, second daughter of Edward Marshall, Surgeon, of Church House, Mitcham, Surrey.

HOPE—BRIGGS.—On the 31st ult., at St. John's, Angell Town, Brixton, by the Rev. C. J. Rashleigh Cooke, M.A., Vicar, George Hope, L.R.C.P., M.R.C.S., L.S.A.Lond., only son of Major George Hope, late of the 77th Regiment, D.C.O., to Louise, eldest daughter of Colonel John Briggs, late of the 82nd Regiment, P.W.V.

LUCKMAN—MUIR.—On the 25th ult., at Christ Church, Timperley, by the Rev. W. Bellars, M.A., of All Hallows, London (cousin of the bride), assisted by the Rev. C. B. Gwynne, B.A., Edward Llewellyn Luckman, M.R.C.S., L.R.C.P., of Altrincham, to Fanny, third daughter of W. B. Muir, of Timperley, and niece of the late Sir W. M. Muir, M.D., K.C.B., Director-General of the Army Medical Department.

PHILLPOT—LUXMOORE.—On the 31st ult., at St. George's, Hanover-square, by the Rev. A. Thornton, LL.B., George Frederick Phillpot, M.R.C.S., L.R.C.P., &c., of Brooklands, Hemel Hempstead, Herts, third son of T. Aston Phillpot, Esq., of Summerfield House, Hartlebury, Worcestershire, to Harriett Augusta, only surviving daughter of the late William Edwd. Luxmoore, Esq., of Lawn-park, Hemel Hempstead.

DEATHS.

BLOWER.—On the 30th ult., at Duke Place, Bedford, after an illness of twenty-eight years' duration, William Blower, M.R.C.S., L.S.A., aged 84.

CORNISH.—On the 2nd inst., at East-street, Taunton, Charles Henry Cornish, F.R.C.S.E., aged 80.

CUMING.—On the 4th inst., at his residence, The Mall, Armagh, Thomas Cuming, M.D., in his 90th year.

HALLOWES.—On July 4th, at Bourke, New South Wales, suddenly, Miller Coleman Hallowes, L.S.A., in his 57th year.

JACKSON.—On the 1st inst., at Kirkbuddo, Forfarshire, James Rawlinson Jackson, Deputy Surgeon-General, I.M.D.

LOWTHER.—On the 7th inst., at 3, Nelson-avenue, Hull, George Lowther, F.R.C.S., aged 79.

OLIVER.—On the 28th ult., suddenly, at his residence, Montgomery House, Harbury, Warwickshire, Richard Owen Oliver, M.R.C.S., aged 61.

PITCHER.—On the 7th inst., at Southport, Arthur Henry Pitcher, L.S.A., eldest son of the late John Henry Pitcher, Proctor, of Doctors' Commons, in his 44th year.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths*

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADKINS, GEORGE, L.R.C.P.Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Plympton St. Mary Rural Sanitary District, Devon.

BOND, W. A., M.A., M.D., B.C.Cantab., has been appointed Resident Accoucheur to St. Thomas's Hospital.

BROOK, W. F., M.R.C.S., L.S.A., has been appointed Clinical Assistant in the Throat Department of St. Thomas's Hospital.

BULSTRODE, H. T., M.B., B.C.Cantab., L.R.C.P., M.R.C.S., has been appointed Non-Resident House-Physician to St. Thomas's Hospital.

CALVERT, J. T., L.R.C.P., M.R.C.S., has been appointed Assistant House-Surgeon to St. Thomas's Hospital.

CRISP, E. H., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Ear Department of St. Thomas's Hospital.

CROTHER, THOMAS, M.D. King's Col. Aberd., M.R.C.S., has been appointed Medical Officer of Health for the Midgley Urban Sanitary District, Yorkshire, vice Britton.

DUNCAN, H., L.R.C.P., M.R.C.S., has been reappointed Clinical Assistant in the Skin Department of St. Thomas's Hospital.

FOX, HERBERT, L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer of Health for the Stainland-with-Old Lindley Urban Sanitary District, Yorkshire, vice Britton

HAWKINS, H. P., M.B., B.S.Oxon., M.R.C.S., L.S.A., has been re-appointed Resident House-Physician to St. Thomas's Hospital.

HINNELL, J. S., M.R.C.S., L.S.A., has been reappointed Ophthalmic Clinical Assistant to St. Thomas's Hospital.

HOYLE, JOHN, M.B., C.M.Ed., has been appointed Medical Officer of Health for the Barkisland Urban Sanitary District, vice Britton.

JONES, H. S., M.R.C.S., L.S.A., has been appointed House-Surgeon to St. Thomas's Hospital.

LEAH, THOMAS, M.R.C.S., has been reappointed Medical Officer of Health for the East Stonehouse Urban Sanitary District, Devonshire.

MACEVOY, H. J., L.R.C.P., M.R.C.S., has been reappointed Resident House-Physician to St. Thomas's Hospital.

MARSHALL, ANDREW, M.D., has been appointed Consulting Honorary Medical Officer to the Preston and County of Lancaster Royal Infirmary.

ORD, W. W., M.A., M.B., B.S.Oxon., M.R.C.S., has been appointed Assistant House-Surgeon to St. Thomas's Hospital.

POGSON, WILLIAM, L.R.C.P. Ed., F.R.C.S.Ed., has been reappointed Medical Officer of Health for the Leeds Rural Sanitary District.

RIGBY, JAMES A., M.D. Lond., has been appointed Honorary Medical Officer to the Preston and County of Lancaster Royal Infirmary, vice Marshall, resigned.

SMYTH, H. J., L.R.C.P., M.R.C.S., has been reappointed non-Resident House-Physician to St. Thomas's Hospital.

SISSONS, WILLIAM HARLING, M.R.C.S., L.S.A., has been reappointed Medical Officer of Health for the Barton-upon-Humber Urban Sanitary District.

SOLLY, E., L.R.C.P., M.R.C.S., L.S.A., has been appointed Clinical Assistant in the Ear Department of St. Thomas's Hospital.

TEBB, W. SCOTT, M.A., M.B.Cantab., L.R.C.P., M.R.C.S., L.S.A., has been appointed Clinical Assistant in the Throat Department of St. Thomas's Hospital.

TONKING, J. H., L.R.C.P., M.R.C.S., has been appointed House-Surgeon to St. Thomas's Hospital.

WHISTON, P. H., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Skin Department of St. Thomas's Hospital.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Residence, board, and washing, but no salary.

DEVON AND EXETER HOSPITAL.—House-Surgeon. Salary £120 per annum, increasing £10 a year until it rises to £150, with board and lodging.

EAST SUFFOLK HOSPITAL.—Honorary Physician.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Surgeon to out-patients.

FEMALE LOCK HOSPITAL, Harrow-road, W.—House-Surgeon. Salary £100 per annum, and board and lodging.

GREAT NORTHERN CENTRAL HOSPITAL, Caledonian-road, N.—Obstetric Physician to in-patients.

LEAMINGTON AMALGAMATED FRIENDLY SOCIETIES MEDICAL ASSOCIATION.—Resident Medical Officer. Salary £300; £50 for conveyance; midwifery fees, &c.; good residence, coachhouse, stable, rent, and taxes free.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—House-Surgeon. An honorarium of £70 per annum, and board and lodging in the hospital.

SHEFFIELD GENERAL INFIRMARY.—Two Assistant Physicians and two Assistant Surgeons.

ST. LUKE'S HOSPITAL.—Resident Clinical Assistant. Board and residence.

TAUNTON UNION.—Medical Officer. Salary £75 per annum, together with fees for midwifery, &c.

TORBAY HOSPITAL AND PROVIDENT DISPENSARY, Torquay.—Junior House-Surgeon and Dispenser. Salary £90 a year, with board, lodging, and attendance (wine, spirits, beer, and washing excepted), together with fees from pupils, if any.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, September 8th, 1887.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Sep. 2	29·30	S.W.	60	57	89	63	57	·15	Cloudy
,, 3	29·85	W.	61	56	107	68	55	·05	Cloudy
,, 4	29·67	W.	63	58	112	69	55	·24	Cloudy
,, 5	29·56	S.W.	58	56	97	70	55	·14	Cloudy
,, 6	29·61	S.W.	61	57	110	70	56	·04	Raining
,, 7	29·63	W.	59	56	103	66	54	·19	Cloudy
,, 8	30·39	N.E.	53	47	...	...	46	·04	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

"MASSAGE AND ELECTRICAL TREATMENT."

WE have received a letter from the Managing Director of the "Limited Company" referred to in an annotation which appeared in our impression of the 27th ult., page 427. The writer complains that our "strictures on Dr. Leeson are scarcely just, as he is legitimately engaged in superintending and carrying out at our establishment modes of medical treatment that, rightly or wrongly, are receiving extensive countenance from medical practitioners, and that the methods employed by him, as the Company's consulting physician, are identical with those in use by many of his professional brethren." The Managing Director evades the issue raised in our annotation. The legitimate use of electricity as a therapeutic agent is one thing; the obtrusive advertising of the name of a medical practitioner as the employer of such agent, and at the same time as a candidate for the treatment of a disease in which electricity is not specially indicated, is quite another.

Medicus.—The best text-book is Blandford's. Miller's "Hints on Insanity" is small, but good. Bucknill and Tuke's book is the standard work of reference on the subject, but probably too elaborate for our correspondent's purpose. The recent works of Drs. Clouston and Savage are excellent, but are somewhat bulky. Then there are the works of Maudsley, Esquirol, and Greisinger. Good epitomes suitable for students are to be found in Bristowe, Tanner, Russell Reynolds, and in Quain's Dictionary.

Dr. Laquer (Wiesbaden).—Arrangements have already been made.

PROFUSE PERSPIRATION.

To the Editors of THE LANCET.

SIRS,—I shall feel obliged if any of your readers will advise me in the following case.

A gentleman, apparently in perfect health, suffers great inconvenience from profuse perspiration. Walking a short distance, any slight exertion, or entering a warm room causes the perspiration literally to pour off him. He thinks this has much increased since he had syphilis and a long course of mercurial treatment three years ago. Treatment for the past twelve months has been belladonna internally and externally, mineral acids and tonics, oxide of zinc, sponging, and all the usual remedies. Belladonna externally has done good temporarily. If any of your readers can suggest any means to give him relief I shall be thankful.

I am, Sirs, yours faithfully,

September, 1887. YORK.

THE PREPARATION OF ANTISEPTIC SPONGES.

THE *Vereinsblatt Pfalzischer Aerzte* states that in the antiseptic process sponges of medium porosity are the most easily treated, those in which the pores are too fine being freed with difficulty from sand and shell-lime. They are well dried by heat, and are freed from coarse sand by being beaten with canes, being then placed upon a coarse hair-sieve, and washed until the water runs off absolutely clear and free from sediment. The sponges are then subjected to the action of a solution of permanganate of potash (1 in 1000) for about two hours, and enough crude muriatic acid is added to cause the violet colour to entirely disappear. By repeated washing with water the sponges are purified still further, until the water used in washing no longer reddens blue litmus paper. They are then well dried and placed in a solution of sublimate (1 in 1000), where they are left ten or twelve hours. By occasional washing with distilled water the solution of chloride of mercury is removed, and the sponges are then dried in a room free from dust (or, preferably, in a drying press), until no loss in weight takes place. For preserving the sponges metal vessels or wide-necked glass receptacles closing tightly are indispensable.

M.D.—Wishes to be informed of an institution in which admission may be gained, free or on payment of a small weekly sum, by a lad aged fifteen, who has crippled lower limbs. There is no affection of any other part. The intellect is bright, and his whole time is spent in reading and writing. It is thought desirable that he should learn some light trade as a means of earning his livelihood.

Ignoramus.—Dr. Lutaud, editor in chief of the *Journal du Medecine de Paris*, has published a book which gives the statistics mentioned.

Mr. J. B. Pike.—The cases are not parallel.

"PARALYSIS AFTER DELIVERY."

To the Editors of THE LANCET.

SIRS,—In reference to the letter by "Volzi" in to-day's issue, I beg to suggest that the temporary paralysis described by him might have been due to the same cause as that of "cramps" occurring both during and subsequently to labour—viz., by pressure of the child's head (especially when partially encased by forceps) on the large nerves of the lumbar plexus, causing (firstly), as a rule, cramps in the corresponding (according to position of patient—of course, usually the left) side, or rather leg; and then, if the pressure be increased, as in difficult instrumental delivery, causing partial or complete dissolution of the nerve-current, and consequent paralysis; the pricking sensation of "pins and needle" appearing when the nerves are recovering their functions. The puffiness in the ankle, I imagine, proceeds from the same pressure on the inferior cava. "Volzi" also asks if this form of paralysis is of common occurrence. I have not attended a case where the paralysis has remained so long as six weeks, but have attended within the last twelve months, out of about 200 cases, three or four, in all of which the paralysis lasted, on the average, about a week.

I am, Sirs, yours faithfully,

August 27th, 1887. EXTREME PRESSURE.

To the Editors of THE LANCET.

SIRS,—The probable explanation of the case reported by "Volzi" is that some damage was inflicted on the nerve trunks in the pelvis. Seeligmüller has published a very similar case. In the instance in question there had been a difficult instrumental labour, which was followed by neuralgic pains in the course of the sciatic nerve, and later by paralysis with atrophy of the leg. I cannot tell your correspondent if this is a common occurrence. I have had no personal experience on the point. It would be interesting to learn the experience of obstetricians.

I am, Sirs, yours truly,

Welbeck-street, W., Sept. 1st, 1887. W. B. HADDEN.

Junior Practitioner.—Information regarding the sanitary condition of Dresden may be obtained from Baldwin Latham's book. With regard to Brussels, our correspondent might apply to the Secretary of the Bureau d'Hygiène.

Mr. Palmer (Newport).—Will our correspondent state more particularly what substance is referred to under the name "gelatine enamel."

Mr. T. W. Jones (Ventnor).—Yes.

INFANTILE DIARRHŒA.

To the Editors of THE LANCET.

SIRS,—It appears to me that one of the most cogent and common causes of the diarrhœa now prevalent among children, and of its extreme fatality among the lower classes, is not sufficiently discussed in your influential columns. While straining at gnats do we not swallow camels in neglecting to inform the public of the dangers arising from the indiscriminate use of green and unripe fruits, especially by children who have as yet not all their teeth? One does not nowadays enter a tramcar or pass a perambulator without seeing an infantile occupant discussing a green apple or an unripe plum, fed to its destruction by its misnamed "nurse" or ignorant mother.—I am, Sirs, yours sincerely,

London, Aug. 28th, 1887. PÆDIATRIX.

THE STUDENTS' NUMBER: ADDENDA ET CORRIGENDA.

IN the list of lecturers at the London Hospital which appeared in our Students' Number the name of Dr. Lewers, Assistant Obstetric Physician to the institution, was inadvertently omitted. The names of the professorial staff of Queen's College, Birmingham, were also incorrectly given. They should read as follows:—Medicine: Sir Walter Foster, M.D., F.R.C.P., M.P.; Sir James Sawyer, M.D.Lond., F.R.C.P. Surgery: Oliver Pemberton, F.R.C.S.; Bennett May, M.B., B.S.Lond., F.R.C.S. Anatomy: Bertram C. A. Windle, M.A., M.D., B.Ch.Dub. Demonstrators of Anatomy: Jordan Lloyd, M.B., M.S., F.R.C.S.Eng.; W. F. Haslam, F.R.C.S.Eng.; F. Marsh, F.R.C.S.Eng. *Systematic Physiology: F. J. Allen, M.A., M.B.Cantab., M.R.C.S. *Chemistry: William A. Tilden, D.Sc.Lond., F.R.S. *Chemical Physics: W. Poynting, M.A., D.Sc.Cantab. Pathology: Gilbert Barling, M.B., B.S.Lond., F.R.C.S.Eng. Demonstrator of Medical Pathology: Arthur Foxwell, B.A., M.B.Cantab., M.R.C.P. *Histology and Practical Physiology: F. J. Allen, M.A., M.B.Cantab., M.R.C.S. *Botany and Vegetable Physiology: William Hillhouse, M.A. Cantab., F.L.S. *Practical Chemistry: W. A. Tilden, D.Sc.Lond., F.R.S. Materia Medica and Therapeutics: Edwin Rickards, M.A., M.B. Oxon., F.R.C.P.; C. W. Suckling, M.D.Lond., M.R.C.P. Forensic Medicine: J. St. S. Wilders, M.R.C.S. Toxicology: A. Bostock Hill, M.D., F.I.C.S., Sc. Cert. Cantab. Midwifery and the Diseases of Women: John Clay, M.R.C.S. Practical Surgery: Demonstrators—Vacant. Ophthalmic Surgery: J. Vose Solomon, F.R.C.S. Lunacy and Mental Diseases: E. B. Whitcombe, M.R.C.S. Curator of the Museum: Bertram C. A. Windle, M.A., M.D., B.Ch.Dub. Medical Tutor: E. Hogben, B.A., M.B., B.Ch.Dub., M.R.C.P.Lond. The classes marked * will be held in Mason Science College.—In the table showing the rates of pay, &c., in the Army Medical Service, which appeared on page 472, the words "relative military rank" were by an oversight printed in place of "ranks as."—We are also requested to state that the practice of the Birmingham and Midland Orthopædic Hospital is open to students of the Birmingham School of Medicine.—Post-graduate courses of lectures—i.e. lectures only open to legally qualified practitioners—are delivered in connexion with the Charing-cross Hospital Medical School and the Leeds General Infirmary; also at Edinburgh.

Mary E. Johnson.—We must refer our correspondent to our advertising columns, or to the Charities Register and Digest, published by Longmans.

Mr. J. C. Murphy.—We are not in possession of any information on the subject beyond that contained in our advertising columns.

Mr. J. H. Potter.—1. It is not possible to answer this question.—2. Not at all likely.

E. F. Lee had better submit the matter to her ordinary medical attendant.

"SWEATING OF THE FEET."

To the Editors of THE LANCET.

SIRS,—Dr. Taylor* states that he has found a remedy for sweating of the feet in borate of soda. I would venture a theory. Has not the oleaginous exudation from the feet more affinity to the soda than the boracic acid, thus rendering it more soluble? Would your correspondent be kind enough to apply the soda and the borax separately, and thus prove which is most efficient? Has the decline of the hot weather anything to do with the cure by salicylic acid? In my case, at present under treatment, alum was tried and found ineffectual, whereas soda has proved a complete success. No remedy I believe will suffice to prevent its recurrence during the hot weather.

I remain, Sirs, yours truly,

Newhaven, Aug. 30th, 1887. D. RICHARDSON, M.R.C.S., L.S.A.

* The signature was misprinted. It should have been "J. Slight, M.D."—ED. L.

To the Editors of THE LANCET.

SIRS,—Permit me to mention two methods of treating the above complaint which I have found perfectly successful. One is the use of a dusting powder consisting of 15 parts boracic acid, 25 parts oxide of zinc, and 60 French chalk, applied freely to the socks as well as to the feet. The other method is to apply Barff's boroglyceride after carefully drying and rubbing the feet. In this way a slight case was cured in four days. Special attention should be paid to the skin between the toes.

I am, Sirs, yours faithfully,

Finsbury-circus, Aug. 26th, 1887. F. R. WALTERS, M.D. Lond.

THE BROWN DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—Please allow me to acknowledge the following contributions to the above fund:—Dr. Wyman, £2; Dr. R. Hamilton (Dublin), £1 1s.; T. E. Bowkett, Esq., 10s.; Dr. W. Laidlaw Purves, 5s. Amount previously received, £34 17s. I am, Sirs, yours faithfully,

G. STANLEY MURRAY, M.D.

23, Upper Richmond-road, Putney, Sept. 6th, 1887.

SNAKE-FARMING FOR PHARMACEUTICAL PURPOSES.

A WRITER in a newspaper having expressed surprise at anyone attempting to farm rattlesnakes, as at least one man in America does, and having asked what can be the use of a dead rattlesnake, the *Monthly Magazine of Pharmacy* remarks that it is evident that the writer is unaware that the homœopaths make use of the poison of the rattlesnake under the name of "lachesis," which drug, indeed, was said by a homœopathic journal not very long since to have caused the death of a patient, an overdose having been taken. The *Magazine* then goes on to supply some interesting information with respect to the rattlesnake trade. The breeder, who is anything but a mythical individual, has, it seems, a farm of forty acres in Illinois, where he grows snakes by the thousand. His land has never been ploughed, and is devoted entirely to this "odd sort of agriculture." It is interesting to know that the contract price for "rattlesnakes' tails in bulk" is £1 per tail, and that a pharmaceutica firm in Philadelphia contracts to take 250 tails every year. We have given the wholesale price at which the product is quoted, for it is never retailed, any more than the serpents themselves, the extract called lachesis being the ultimate object of rattlesnake rearing. With regard to the enterprising breeder, an American correspondent writes: "Unless he has learnt the art of snake-charming, that Illinois farmer will probably take a look at his stock once too often."

An Old Subscriber.—The first arrangement was the best; but in both the interval between the last meal in the evening and the first meal in the morning is too long. The serving out some small refreshment on rising is a good plan; but in addition we would advise a light supper of some kind. The following is the dietary that has frequently been adopted on our recommendation, and found to act well:—6.30 A.M.: Cup of milk and piece of bread. 8.30: Breakfast, with eggs, fish, bacon, cold meat, &c. 1.30: Dinner. 6 P.M.: Tea, with preserves or butter. 9 P.M.: Supper, bread and cheese, or porridge, or cup of hot milk with slice of bread.

Nemo can only obtain answers to such questions by addressing them specifically to club surgeons on a large scale.

Surgeon.—Our correspondent should address his question and a copy of the advertisement he sends us to the Dean of the Medical Faculty of the University of Edinburgh.

Mr. J. H. Parkinson (Sacramento).—We are unable to extend our exchange list at present.

CASE OF DISLOCATION OF BOTH HIPS; DISLOCATION OF RIGHT SHOULDER, AND FRACTURE OF TWO RIBS; RECOVERY.

To the Editors of THE LANCET.

SIRS,—Possibly the following case may be interesting to the readers of THE LANCET:—

I was called in to attend G. S——, a collier, aged thirty-six, on July 31st, 1886. Whilst at work on that date a fall of the roof took place just above where he was working, striking him on the back of the neck and doubling him up. His companions state that quite a ton of earth fell upon him. He was brought home quite unconscious. I was sent for, and found the above-named injuries. The right leg, which was dislocated on to the pubic bone, was reduced the first, whilst the man was partially unconscious. This was reduced by extension backwards and outwards, and a napkin used for counter extension. After extension had been kept up for about ten minutes, the head of the bone slipped in. The left leg was then taken in hand, but, from the severe struggling of the patient, could not be reduced without chloroform. After placing him thoroughly under its influence I attempted the reduction (this was on to the dorsum ilii). By bending the knee and flexing the thigh, and giving it a rotatory movement, at the same time having counter extension used with a napkin, I had the satisfaction of finding this joint easily reduced. I then, before the patient became conscious, reduced the dislocation of the shoulder, which was subcoracoid. I then attended to the injury of the ribs. The patient made a good recovery, being up and walking about in fourteen days, and at work in ten weeks. He had some stiffness in his shoulder, which prevented him from using his arm before the end of that period. Since then he has followed his usual occupation.

I am, Sirs, yours faithfully,

September, 1887. SURGEON.

Mr. Samuel Coates must act on his own sense of what is right and dignified in the case. He should have no further dealings with the parties referred to.

S. M. Hiddi.—Both of the physicians named are deceased.

A QUERY.

To the Editors of THE LANCET.

SIRS,—Can any of your readers inform me what the chances of experienced, hospital-trained, reliable private nurses are in Sydney or other Australian cities—whether much in demand or not?

I am, Sirs, yours obediently,

Sept. 3rd, 1887. J. C.

A CATERPILLAR IN THE NOSE.

To the Editors of THE LANCET.

SIRS,—A woman complained of pain, irritation, and stuffiness of the right nostril; the symptoms came on suddenly, and were very troublesome, she often experiencing a sensation as of something about to go down the throat. Nothing, however, was to be seen. In a few days a bloody purulent discharge was set up, and in about a week's time on blowing the nose she dislodged a caterpillar, experiencing immediate relief; it was about an inch long and half an inch in diameter. The legs were perfectly developed, tail bifurcate, with a fleshy mass half an inch long projecting from it (I suspect from injury); the insect seemed to be much dwarfed and shrivelled, with head disproportionately large to body. It lived some hours after being expelled from the nose, and was then brought to me. I ordered the nostril to be syringed with boracic lotion, and conclude the recovery was speedy and complete, having heard nothing more of the woman. I may remark that the cottage in which she lived was densely overhung with Virginia creeper, whence I have no doubt the insect primarily issued. I am, Sirs, yours faithfully,

Aug. 24th, 1887. GOOD.

Assistant.—We think B is entitled to make strong representation that he did not contract to do locum tenen's work, and has a reasonable claim to extra remuneration for such work.

CORRIGENDUM.—In Dr. Yule's article, "Chronic Hypertrophic Cirrhosis of Liver," Aug. 27th, p. 413, for "altering venous blood in other systems before it is arterialised" read "the liver likewise alters the venous blood of the whole body before it is arterialised."

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Morell Mackenzie, London; Dr. Budd, Exeter; Dr. Cartwright Reed, South Africa; Mr. F. Treves, London; Sir H. Perrott, London; Dr. Stanley Murray, Putney; Dr. W. B. Hadden, London; Messrs. Hedgecock and Co., London; Dr. F. A. A. Smith, Cheltenham; Dr. T. D. Savill, London; Dr. F. Sturges, Beckenham; Dr. C. Robertson, London; Mr. T. Richards, Mansfield; Mr. Petrie, London; Messrs. Maythorn and Son, Biggleswade; Dr. O'Brien, Hampstead; Messrs. Oliver and Boyd, Edinburgh; Dr. G. W. Steeves, Liverpool; Dr. Connor, Lower Edmonton; Dr. C. F. Hutchinson, Scarborough; Messrs. Thompson and Co., London; Dr. F. R. Walters, London; Dr. Carraldo, Hong Kong; Mr. C. Potter, Stockport; Dr. Campbell, Kanai, Hawaiian Islands; Mr. L. Braddon, Upton-on-Severn; Messrs. Blakeston and Son, Philadelphia; Mr. Wright, Romford; Messrs. Oppenheimer and Co., London; Mr. A. S. Jones, London; Messrs. Bates and Co., New York; Dr. Collins, London; Dr. Squire, London; Messrs. Burroughs and Wellcome, London; Mr. R. Ewing, Chiswick; Messrs. Street and Co., London; Mr. Harness, London; Dr. Battye, London; Dr. Harry Campbell, London; Mr. C. H. Phillips, Hanley; Dr. R. Cran, North Lakhimpur; Mr. J. Erskine, Glasgow; Mr. S. Coates; Messrs. Bates and Co., London; Mr. W. C. Jeffries, Battersea; Messrs. Rocke and Co., London; Dr. Jas. Oliver, London; Dr. Yule, London; Dr. Beaven Rake, Trinidad; Mr. Meadows, Hastings; Dr. Slight; Messrs. Mayer and Meltzer, London; Dr. Meany, London; Mrs. Lidden, Crouch Hill; Dr. Sadler, Barnsley; Dr. H. W. Jones, London; Messrs. Leader and Sons, Sheffield; Dr. R. P. Harris, Philadelphia; Messrs. Dawson Bros., Montreal; Mr. F. T. Simson, London; Mr. C. H. Byles, Gold Coast; Mr. B. Marshall, Atherton; Mr. C. Lucas; Messrs. Johnson and Co., Edinburgh; Mr. C. J. Bond, Leicester; Mr. Holloway, West Green; Mr. T. H. Churton, Liverpool; Messrs. Wright, Dain, and Co., Birmingham; Dr. T. Britton, Harrogate; Messrs. Churchill and Co., London; Mr. C. Chittenden, Bexhill; Mr. Pike; Messrs. Bell and Co., Edinburgh; Mr. C. J. Robertson, Wandsworth; Messrs. Mackie and Co., London; Mr. A. Neve, Kashmir; Mr. D. Richardson; Mr. J. Lewis, Birmingham; Mr. Martindale, London; Lieutenant-Col. A. S. Jones; Dr. Pullin, Sidmouth; Dr. Kardon, Evershot; Mr. Bell, Doncaster; Dr. Skerrett, Bristol; Dr. Kitchingman, Slingsby; Mr. A. J. Harvey; Mrs. Carless, Liverpool; Mr. D'Orsey, Londo n; Mr. Burdett, London; Dr. Bahadhurji, Berlin; Mr. Soper, Dartmouth; Mr. Cornish, Manchester; Messrs. Poole, Glasgow; Mr. Birchall; Mr. Pentland, Edinburgh; Mr. Russell, Glasgow; Mr. Watt, London; Mr. Browne, London; Mr. Woodcock, Bradford; Mr. Potter, Yeovil; Mr. Peacock, London; Dr. Elliaschen, Paris; Mr. Blakeston, Wareham; Mr. Gabes, London; Mr. Barlow, Birmingham; Dr. Annett, Calvados; Mr. Fuge, Taunton; Dr. Hicks, Hendon; Mr. Ellis, Newcastle; Mr. Hoargood, Witherage; Dr. Boggs, Paris; Mr. Barrs, Leeds; Mr. Davies, Little Bedwell; Mr. Hunt, Bristol; Mr. Morgan, Westminster; Mr. Logan, Glasgow; Mr. Townsend, Exeter; Mr. Hughes, Deal; Dr. Allwright, Maidstone; Mr. Sargent, London; Mr. Walker, Aberdeen; Dr. Jay, Lymington; Mr. Dowligh, Trowbridge; Mr. Bond, Brill; Mr. Gosset, London; Dr. Barrant, Edinburgh; Dr. Steeves, Liverpool; Dr. Wise, Maloja; Dr. Conkill, Matlock; Mr. Bedingfield, Worthing; Dr. Cole, Bardesley; Dr. Fulton, Toronto; Mr. Singh, Sakkur; Mr. Harris, London; Dr. Waterhouse, Tullyallan; Dr. Rorie, Dundee; Dr. Dane, Finchley; Mr. Townsend, Exeter; Mr. Gross, London; Mr. Martin, Rotherham; Mr. Mercier, London; Mr. Brown, London; Mr. Ma'ster,

Chichester; Mrs. Wigg, Leicester; Mr. Hunt, Eastville; Mr. Boyce, Birmingham; Mr. Huish, Ryde; Mr. Bee, London; Messrs. Farwig and Co., London; Mrs. Ellis, St. Leonards-on-Sea; Messrs. Smith and Son, Dublin; Dr. Maxwell, Woolwich; Mr. Richardson, Leamington; Mr. Mayhew, Ipswich; Mr. Asquith, Birmingham; Dr. Macdonald, Dorchester; Mr. Evans, Oswestry; Dr. Blythe, Marylebone; B. L. M.; Nemo; Beta; York; Assistant; The Director-General of the Army Medical Department; Surgeon; S. U. U.; M.D.; A Graduate in Medicine and Surgery; Questio; C. S. R.; An Assistant for Sixteen Years; M.D., Birmingham; A. B., Bayswater; G., Derby; Extreme Pressure; A. B. G. D., Edinburgh; M.D., Maidenhead; Oak; Head Master, Malvern; M., Paddington; A. W., Sydenham; J. W. H.; An Old Subscriber; Medicus, Godalming; M.D., Surbiton; D. C.; Milton Chemical Company, Glasgow; Medicus, Aberystwith; Matron, Newport; A Union Medical Officer.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Fenton Jones, Tatham; Mr. Stenhouse, Glasgow; Messrs. Willoughby and Son, Gravesend; Mr. Heywood, Manchester; Messrs. Aldridge and Co., Bournemouth; Mr. Richardson, Knocknowan; Messrs. Thorne and Co., Bristol; Miss Carson, Burton-on-Trent; Messrs. Thorne and Co., London; Dr. Moir, Glasgow; Mr. Hunt, Bristol; Messrs. Keith and Co., Edinburgh; Dr. Taylor, Newcastleton; Messrs. Mason and Co., London; Mrs. Hay, Birkenhead; Mr. Galway; Messrs. Clark and Co., Belfast; Mr. Briggs, Cambridge; Mr. Collins, London; Mr. Earl, Southport; Mr. Harris, Clevedon; Dr. Powne, Chard; Mr. Andrew, Newark; Messrs. Heamley, Boston; Mrs. Olivier, Wilton; Mr. Paine, Worthing; Mr. Freeman, Reading; Dr. Phillips, Aughnacloy; Rev. W. Grundy, Malvern; Messrs. Carlyle, Liverpool; Mrs. Purchas, Bolton; Mr. St. Mercier, London; Dr. Jones, Monmouth; Dr. Butler, Castle Donington; Mr. Carnies, Edinburgh; Mr. Eschwege; Mr. Johnston, Twyford; Miss Betts, Leamington; Dr. Williams, London; Mr. Jones, Cork; Mr. Gibson, Craigbank; Dr. Gemhill, Derby; Messrs. Warren and Co., Bristol; Mr. Gayley, Borrisokane; Mr. Weymouth, Brondesbury; Mr. Reay, Eastbourne; Mr. Casidy, Hunmanby; Dr. Marshall, Atherton; Mr. Quiver, Bristol; Mr. Bogle, Harrogate; Mr. Wheeler-Manchester; Dr. Colmer, Yeovil; Mr. Lyster, Athlone; Mr. Sacker, London; Mr. Crassweller, London; Dr. Iles, Taunton; Mr. Roberts, Ambleside; Mrs. Garrod, Diss; Mr. Bolter, Richmond; Mr. Marshall, Mitcham; Mr. Mackenzie, Aberdeen; Mr. Collins, Ash; Mr. Pinder, Broughton; Mr. Philpott, Hemel Hempstead; Mr. Cooper, Great Brodley; Mr. Nicholay, Newport; Mrs. Terrell, Hertford; Mr. Salmon, Ruthin; Mr. Smith, Kennetty; Mrs. Powell, Newark; Mr. Edwards, Epping; Mr. Stevens, St. Austell; Dr. Roberts, Penygroes; Mr. Hoar, Maidstone; Mr. Stroner, Sandy; Mr. Storey, Birmingham; Dr. Symons; Matron, Weston-super-Mare; M.D., York; Alpha, Rochester; J. H., Scarborough; A., Gloucester; Ross, Scarborough; Berba; Medicus, Richmond; Medicus, Pontypool, H., Chelsea; S. A.; A. M.; O. J., Liverpool; Medicus, Glasgow; E. T. C., Southsea; H. D.; H. T., Birmingham; R. S.; L. M. B.; Matron, Barrow-in-Furness; Lady Superintendent, Canterbury; Wood, Brighton; F. Z.; Surgery, Portsmouth; Locum, Kimberley; Medicus, Liverpool; F. P. H.; H. B., Worthing; M. F. L.; Box; A. L. K.; X., Glasgow; C. H. M., Bromyard; W. A., Bideford; X., Huddersfield; P. G. A.; Cornea; Ditton Priors, Bridgnorth; B. N.; C. O., Barnsley; Nightbell; Medicus, Calvados; Surgeon, Minchinhampton; T. R. C.; Malveso; Sartis, Croxdale; Stonehouse, Wellington; J. C. T.; F. T., Birmingham; M.D., Crewe; Medicus, Salford; L. A. H., Bradford; D., Cradley Heath; F. E. S., Clifton; X. Y. Z., London; Delta; Senex; Medicus, Northampton; Sallust; W. J. S., Manchester; A. A., Eccles; M.D., Bradford; D. D.; Ross; C.C.M.; Secretary, Manchester.

Scottish News, Bootle Times, City of Georgetown (Demerara) Argosy, Manchester Guardian, Liverpool Courier, &c., have been received.

Medical Diary for the ensuing Week.

Monday, September 5.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.

Tuesday, September 6.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 3.30 P.M.; Saturday, 3.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.

Wednesday, September 7.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 A.M.; Saturday, same hour.

Thursday, September 8.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Friday, September 9.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, September 10.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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